

=> fil reg

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STRUCTURE FILE UPDATES: 7 JUN 2010 HIGHEST RN 1227141-97-0  
 DICTIONARY FILE UPDATES: 7 JUN 2010 HIGHEST RN 1227141-97-0

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TSCA INFORMATION NOW CURRENT THROUGH January 8, 2010.

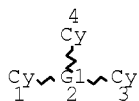
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 predicted properties as well as tags indicating availability of  
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 on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stdoc/properties.html>

=> d que 138

L3 STR



VAR G1=N/P

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

L4 SCR 1609 OR 1741

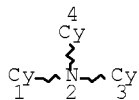
L5 SCR 2077

L6 SCR 2127

L7 SCR 1918

L8 29859 SEA FILE=REGISTRY SSS FUL L3 AND L4 AND L6 NOT (L5 OR L7)

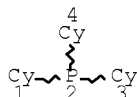
L9 STR



NODE ATTRIBUTES:  
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 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE  
 L10 STR



NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

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L20	938	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L14
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L22	2344	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L15
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L32	11	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L27 AND L31
L33	23	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L24 AND L31
L34	27	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L26 OR (L28 OR L29 OR L30) OR (L32 OR L33)
L35	20	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L34 AND (1840-2006 )/PRY,AY,PY

10/568,659

L36 21 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L19 AND (1840-2006  
)/PRY,AY,PY  
L37 2 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L35 AND L36  
L38 21 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON (L36 OR L37)

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 10:21:48 ON 09 JUN 2010  
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FILE COVERS 1907 - 9 Jun 2010 VOL 152 ISS 24  
FILE LAST UPDATED: 8 Jun 2010 (20100608/ED)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Apr 2010  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Apr 2010

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2010.

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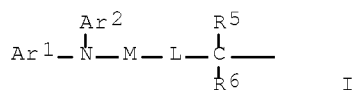
This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l38 1-21 ibib ed abs hitstr hitind

L38 ANSWER 1 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2007:1083082 HCAPLUS Full-text  
DOCUMENT NUMBER: 147:407568  
TITLE: Radiation-induced acid generators, method for  
generation of acids and their use in  
radiation-curable resin compositions  
INVENTOR(S): Kanno, Masaki; Tsushima, Nozomi  
PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 71pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2007246801	A	20070927	JP 2006-74286	20060317
			<--	
PRIORITY APPLN. INFO.:			JP 2006-74286	20060317

OTHER SOURCE(S): MARPAT 147:407568  
 ED Entered STN: 27 Sep 2007  
 GI



AB The generators are represented by [R1aR2bR3cR4dW]+X-, wherein R1, R2, R3, R4 = alkyl, aryl, heterocycle group, alkoxy, aryloxy, heterocycloxy, acyl, carbonyloxy, oxycarbonyl, and alkenyl; W = S, S = O, P, N, and I; a, b, c, d = 0-3 integer; a+b+c+d = valent value of W; X = anion; R1, R2, R3, R4 can optionally form a ring; at least one of R1, R2, R3, R4 is a group represented by formula I, wherein R5, R6 = H, alkyl, aryl, heterocycle group, alkoxy, aryloxy, heterocycloxy, acyl, carbonyloxy, oxycarbonyl, and alkenyl; Ar1, Ar2 = aryl, heterocycle group; M = divalent aromatic hydrocarbon group, or divalent heterocycle group; L = -C(O)-, or directly connected; R5, R6 can optionally form a ring. Thus, 5.00 g 4,4'-dimethyltriphenylamine was reacted with 4.63 g bromoacetyl bromide in dichloromethane in the presence of aluminum chloride to give 4.33 g 2-bromo-1-[4-(di-p-tolyl-amino)phenyl]ethanone, 2.0 g of which was reacted with 0.63 g di-Me sulfide in dichloromethane at room temperature for 24 h to give 1.99 g [2-[4-(di-p-tolyl-amino)-phenyl]-2-oxo-ethyl]-dimethylsulfonium bromide, 1.0 g of which was dissolved in water, added with 31.13 g 4.68% sodium tetrakis(pentafluorophenyl)borate solution, stirred at room temperature for 10 min, to give 1.90 g [2-[4-(di-p-tolyl-amino)-phenyl]-2-oxo-ethyl]-dimethylsulfonium tetrakis(pentafluorophenyl)borate (A). A (0.6 mmol) was mixed with 10 g UVR 6110 (3,4-epoxycyclohexylmethyl-3',4'-epoxycyclohexanecarboxylate) to give a radiation-curable composition, which was cast on an aluminum plate, irradiated with light to give a tack-free film.

IT 950854-48-5

(radiation-induced acid generators, method for generation of acids and their use in radiation-curable resin compns.)

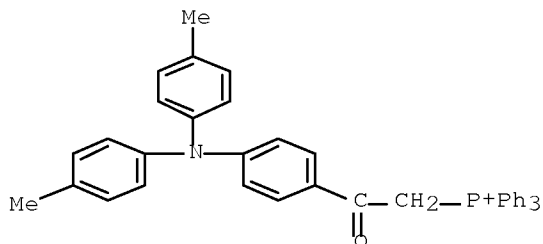
RN 950854-48-5 HCAPLUS

CN Phosphonium, [2-[4-[bis(4-methylphenyl)amino]phenyl]-2-oxoethyl]triphenyl-, tetrakis(2,3,4,5,6-pentafluorophenyl)borate(1-) (1:1) (CA INDEX NAME)

CM 1

CRN 950854-47-4

CMF C40 H35 N O P

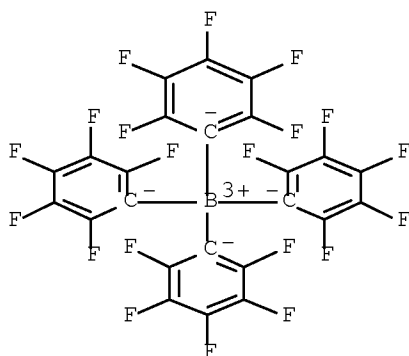


CM 2

CRN 47855-94-7

CMF C24 B F20

CCI CCS



CC 37-6 (Plastics Manufacture and Processing)

IT 950765-45-4 950765-46-5 950854-48-5 950854-50-9

950854-52-1

(radiation-induced acid generators, method for generation of acids  
and their use in radiation-curable resin compns.)

L38 ANSWER 2 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2007:745469 HCAPLUS Full-text

DOCUMENT NUMBER: 147:213466

TITLE: Diphenylethylene-bonded coumarin dye and its  
synthesis and applicationINVENTOR(S): Wu, Feipeng; Li, Xue; Shi, Mengquan; Zhang,  
Yunlong; Zhao, YuxiaPATENT ASSIGNEE(S): Technical Institute of Physics and Chemistry,  
Chinese Academy of Sciences, Peop. Rep. ChinaSOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 15pp.  
CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

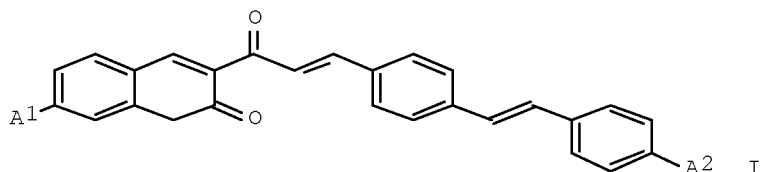
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1990604	A	20070704	CN 2005-10135231	20051227
			<--	
CN 100469841	C	20090318		
PRIORITY APPLN. INFO.:			CN 2005-10135231	20051227
			<--	

OTHER SOURCE(S): CASREACT 147:213466; MARPAT 147:213466

ED Entered STN: 10 Jul 2007

GI



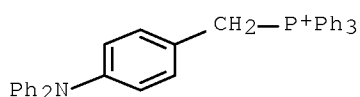
AB The title dye I (A1, A2 = alkyl, alkoxy, amino, heterocyclic, substituted phenyl) is synthesized (1) mixing coumarin compound having A1 group (e.g., 3-Acetyl-7-(diethylamino)coumarin) with p-benzenedialdehyde in mol ratio 1:2-5 and reacting in the presence of catalyst at 25-150° to form a A1 group-containing coumarin dye intermediate; (2) mixing A2 group-substituted benzene, potassium halide, Ph3P, HCHO, CH3COOH, H2O and CHCL3, reacting or mixing A2-substituted benzyl chloride, Ph3P and an organic solution and heating to reflux; (3) mixing the A1 group-containing coumarin dye intermediate with A2 group-containing phosphonium compound, reacting in the presence of a catalyst in an organic solvent, separating and purifying to give the dye final product. The title dye can be used as photosensitizer in biphotonic polymerization

IT 944544-92-7P

(preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymerization)

RN 944544-92-7 HCAPLUS

CN Phosphonium, [[4-(diphenylamino)phenyl]methyl]triphenyl-, chloride (1:1) (CA INDEX NAME)

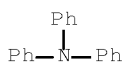


IT 603-34-9 603-35-0, Triphenyl phosphine, reactions

(preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymerization)

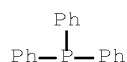
RN 603-34-9 HCAPLUS

CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



RN 603-35-0 HCAPLUS

CN Phosphine, triphenyl- (CA INDEX NAME)



- CC 41-5 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)  
Section cross-reference(s): 73
- ST diphenylethylene coumarin dye prepn photosensitizer two photon polymn
- IT Polyesters  
(acrylates, polymers with acrylates; preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymerization)
- IT Dyes  
(coumarin; preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymerization)
- IT Soybean oil  
(epoxidized, acrylate, polymers with acrylates; preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymerization)
- IT Polymerization  
(photopolymn., two-photon; preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymn .)
- IT Polymerization catalysts  
(photopolymn.; preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymerization)
- IT Light-sensitive materials  
(preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymerization)
- IT 944544-88-1P 944544-90-5P 944544-93-8P  
(preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymerization)
- IT 80-62-6DP, Methyl methacrylate, polymers with polyester acrylate and acrylates 868-77-9DP, 2-Hydroxyethyl methacrylate, polymers with epoxidized soybean oil acrylate and acrylates 51728-26-8DP, Ethoxylated pentaerythritol tetraacrylate, polymers with polyester acrylate and acrylates 60506-81-2DP, Dipentaerythritol pentaacrylate, polymers with epoxidized soybean oil acrylate and acrylates 944544-94-9P, Glycidyl acrylate-pentaerythritol triacrylate-N-vinylcarbazole copolymer 944544-95-0P, Glycidyl acrylate-phenoxyethyl acrylate-trimethylolpropane triacrylate copolymer  
(preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymerization)
- IT 3462-97-3P 392662-56-5P 906374-20-7P 944544-87-0P 944544-89-2P 944544-91-6P 944544-92-7P  
(preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymerization)
- IT 906374-18-3P  
(preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymerization)
- IT 50-00-0, Formaldehyde, reactions 91-66-7 603-34-9 603-35-0, Triphenyl phosphine, reactions 623-27-8, 1,4-Benzenedicarboxaldehyde 824-94-2 20280-93-7 64267-19-2

74696-95-0 74696-96-1

(preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymerization)

IT 526196-98-5P 760153-15-9P

(preparation of diphenylethylene-bonded coumarin dye used as photosensitizer in two-photon polymerization)

L38 ANSWER 3 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2006:725600 HCAPLUS Full-text

DOCUMENT NUMBER: 147:176872

TITLE: Synthesis and strong two-photon absorption of carbazole derivatives

AUTHOR(S): Liu, Guohua; Yang, Ping; Jiang, Wanli; Guo, Xiaozhi; Xu, Guibao; Jiang, Xuezhong; Shen, Liang; Wang, Xiaomei

CORPORATE SOURCE: College of Material Science and Engineering, Suzhou University, Suzhou, 215006, Peop. Rep. China

SOURCE: Gongneng Cailiao (2005), 36(4), 600-603

CODEN: GOCAEA; ISSN: 1001-9731

PUBLISHER: Gongneng Cailiao Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

ED Entered STN: 26 Jul 2006

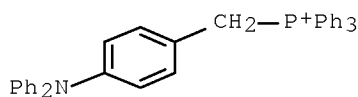
AB Two novel chromophores with carbazole as mol. focal point bearing either triphenylamine or oxadiazole unit at the periphery separatively (3,6-Bis(4-diphenylstyryl)-9H-carbazole and 3,6-Bis[4-(5-ethoxy-1,3,4-oxadiazol-2-yl)styryl]-9H-carbazole named as NT-G1 and NO-G1, resp.) were synthesized and characterized. To comparatively study the linear and 2-photon optical properties, absorption/steady-state and time-resolved fluorescence spectra and relative fluorescence quantum yields were examined Pumped by femto-second laser at 730-800 nm, strong up-conversion emissions with the central wavelength at 453 nm for NT-G1 and 500 nm for NO-G1 in DMF were observed Chromophore NO-G1 possessed strong 2-photon absorption (TPA) with the cross-section ( $\delta$ TPA) as high as 454 GM and 2-photon emission cross-section ( $\delta$ TPE) being as 21 times as that of fluorescein reference As compared with NT-G1, NO-G1 had more than 2-fold increase in the 2-photon absorption (TPA) cross section, which was probably accounted for the resonance enhancement in the excited states due to NO-G1's longer conjugation length, planar geometry, and mol. pn-structure alike. Co-passivated porous Si (CPS) was prepared by stain etching in Co(NO<sub>3</sub>)<sub>2</sub>-HF solution The Si tips with size 0.5-1.5  $\mu$ m were distributed vertically on the surface of the CPS sample. There were rounded holes with size 0.1-0.5  $\mu$ m in diameter on the top of part Si tips. The area d. of the Si tips was about  $1.0 \times 10^8/\text{cm}^2$  on the surface of the CPS sample. The thickness of the CPS sample was about 2  $\mu$ m. XPS and EDS results showed that Co existed on the surface of the CPS sample and nearly no Co diffused into the Si body. The CPS exhibited good reliability and reproducibility in field emission properties, with the turn-on elec. field intensity about 2.3 V/ $\mu$ m. The emission current reached 30  $\mu$ A/cm<sup>2</sup> at elec. field intensity 5.4 V/ $\mu$ m.

IT 943987-88-0P

(synthesis and two-photon absorption of carbazole derivs.)

RN 943987-88-0 HCAPLUS

CN Phosphonium, [[4-(diphenylamino)phenyl]methyl]triphenyl-, iodide (1:1) (CA INDEX NAME)



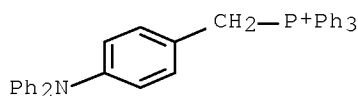
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
IT 338426-44-1P 870789-47-2P 873691-38-4P ~~943987-88-0P~~  
(synthesis and two-photon absorption of carbazole derivs.)

L38 ANSWER 4 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2005:1107642 HCAPLUS Full-text  
DOCUMENT NUMBER: 144:497312  
TITLE: Effects on the two-photon excited fluorescence of  
thiophene derivatives  
AUTHOR(S): Xia, Guang-Ming; Lu, Ping; Liu, Shi-Quan  
CORPORATE SOURCE: School of Chemistry and Chemical Engineering,  
Jinan University, Jinan, 250022, Peop. Rep. China  
SOURCE: Acta Chimica Slovenica (2005), 52(3),  
336-340  
CODEN: ACSLE7; ISSN: 1318-0207  
PUBLISHER: Slovenian Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English

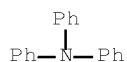
ED Entered STN: 17 Oct 2005

AB Three new thiophene-based organic luminescence compds. named as 2,5-bis(p-N,N-diethylaminostyryl)thiophene (BEST), 2,5-bis(p-N,N-diphenylaminostyryl)thiophene (BPST) and 2,5-bis(p-N-carbazoylstyryl)thiophene (BCST) were synthesized. All of their single-photon excited fluorescence (SPEF) locate in the range of .apprx.530 nm with the quantum yield around 40%, and the corresponding lifetime was .apprx.1 ns. The target compds. show strong solvatochromism in their SPEF spectra except BCST. There is no obvious change for the peak wavelength in the linear spectra of BCS in different polar solvent. Excited by a fs laser at 800 nm, strong up-converted fluorescence of target compds. was detected. The profile of two-photon excited fluorescence (TPEF) was likely with that of SPEF. The two-photon absorption (TPA) cross sections of the compds. were determined by TPEF method. All target compds. show large TPA cross section in the authors' expts. So that thiophene derives may have good TPA properties.

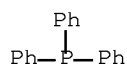
IT 183994-95-8P  
(effects on two-photon excited fluorescence of thiophene derivs.)  
RN 183994-95-8 HCAPLUS  
CN Phosphonium, [[4-(diphenylamino)phenyl]methyl]triphenyl-, bromide  
(1:1) (CA INDEX NAME)



IT 603-34-9, Triphenylamine 6399-81-1  
 (effects on two-photon excited fluorescence of thiophene derivs.)  
 RN 603-34-9 HCAPLUS  
 CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



RN 6399-81-1 HCAPLUS  
 CN Phosphine, triphenyl-, hydrobromide (1:1) (CA INDEX NAME)



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 22, 28, 77  
 IT 4181-05-9P 39529-72-1P, Diethylaminobenzaldehyde 110677-45-7P  
~~183994-95-8P~~ 392662-56-5P 631869-00-6P  
 (effects on two-photon excited fluorescence of thiophene derivs.)  
 IT 109-72-8, n-Butyllithium, reactions 110-02-1, Thiophene  
 603-34-9, Triphenylamine 4282-31-9,  
 2,5-Thiophenedicarboxylic acid 6399-81-1  
 (effects on two-photon excited fluorescence of thiophene derivs.)  
 REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

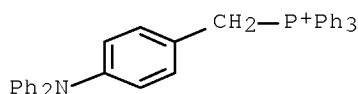
L38 ANSWER 5 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 2005:295180 HCAPLUS Full-text  
 DOCUMENT NUMBER: 144:22769  
 TITLE: New thiophene derivatives with two-photon excited  
 fluorescence  
 AUTHOR(S): Wang, Wei; Xia, Guang Ming; Xu, Gui Bao; Liu, Zhi  
 Qiang; Fang, Qi  
 CORPORATE SOURCE: State Key Laboratory of Crystal Materials,  
 Shandong University, Jinan, 250100, Peop. Rep.  
 China  
 SOURCE: Chinese Chemical Letters (2005), 16(1),  
 85-88  
 CODEN: CCLEE7; ISSN: 1001-8417  
 PUBLISHER: Chinese Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 144:22769  
 ED Entered STN: 07 Apr 2005

AB Two new compds., 2,5-bis[4-(N,N-diphenylamino)styryl]thiophene (BPST) and 2,5-bis[4-(N,N-diethylamino)styryl]thiophene (BEST) were synthesized by Wittig reaction of 2,5-thiophenedialdehyde with appropriate (aminobenzyl)triphenylphosphonium bromide. The two-photon absorption cross section of BPST was  $256 \cdot 10^{-50} \text{ cm}^4 \cdot \text{s/photon}$ , when it was excited by an 800 nm femtosecond laser.

IT 183994-95-8  
(preparation of bis(aminostyryl)thiophenes with two-photon excited fluorescence)

RN 183994-95-8 HCAPLUS

CN Phosphonium, [[4-(diphenylamino)phenyl]methyl]triphenyl-, bromide (1:1) (CA INDEX NAME)



CC 27-8 (Heterocyclic Compounds (One Hetero Atom))  
Section cross-reference(s): 22

IT 932-95-6, 2,5-Thiophenedialdehyde 183994-95-8  
392662-56-5  
(preparation of bis(aminostyryl)thiophenes with two-photon excited fluorescence)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 6 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:101851 HCAPLUS Full-text

DOCUMENT NUMBER: 142:335915

TITLE: Rates and equilibria of the reactions of tertiary phosphanes and phosphites with benzhydrylium ions

AUTHOR(S): Kempf, Bernhard; Mayr, Herbert

CORPORATE SOURCE: Department Chemie und Biochemie der Ludwig-Maximilians-Universitaet Muenchen, Munich, 81377, Germany

SOURCE: Chemistry--A European Journal (2005), 11(3), 917-927  
CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 142:335915

ED Entered STN: 07 Feb 2005

AB The kinetics of the reactions of benzhydrylium ions and quinone methides with eight tertiary phosphines and two phosphites were investigated photometrically. Various benzhydrylium tetrafluoroborates  $[\text{ArAr}_1\text{CH}^+][\text{BF}_4^-]$  ( $\text{Ar}$ ,  $\text{Ar}_1$  = 4-substituted Ph, 2,3-dihydro-5-benzofuranyl, 1,2,3,4-tetrahydro-6-quinolinyl, 1H-2,3-dihydro-5-indolyl) react with  $\text{PR}_3$  ( $\text{R}$  = 4- $\text{ClC}_6\text{H}_4$ , Ph, 4-Me $\text{C}_6\text{H}_4$ , 4-MeOC $\text{C}_6\text{H}_4$ , 4-MeNC $\text{C}_6\text{H}_4$ , iPr, cyclo-C $\text{C}_6\text{H}_{11}$ , Bu, OPh, OBu) affording

corresponding quaternary salts  $[\text{ArArlCHP}+\text{R}_3][\text{BF}_4]^-$ ; the rate consts. and activation parameters of the quaternization reaction were determined. The nucleophilicity parameters  $N$  and slope parameters  $s$  of nucleophiles  $\text{PR}_3$  were derived according to the equation:  $\log k_{20^\circ\text{C}} = s(N + E)$ . Correlations of the nucleophilicity parameters  $N$  with  $\text{pK}_\text{a}$  and  $\sigma_\text{p}$  values as well as with the rate consts. of reactions with other electrophiles are discussed. In some cases, equilibrium consts. for the formation of phosphonium ions were measured, which allow one to determine the Marcus intrinsic barriers of  $\Delta G_0^\ddagger = 58 \text{ kJ mol}^{-1}$  for the reactions of triarylphosphines with benzhydrylium ions. The  $N$  parameters [5.5 for  $\text{P}(\text{OPh})_3$ , 10.36 for  $\text{P}(\text{OBu})_3$ , 14.33 for  $\text{PPh}_3$ , 15.49 for  $\text{PBu}_3$ , 18.39 for  $\text{P}(4\text{-Me}_2\text{NC}_6\text{H}_4)_3$ ] are compared with the reactivities of other classes of nucleophiles.

IT 848629-15-2P

(kinetics of quaternization of phosphorus nucleophiles by benzhydrylium cations and nucleophilicity parameters for phosphines and phosphites)

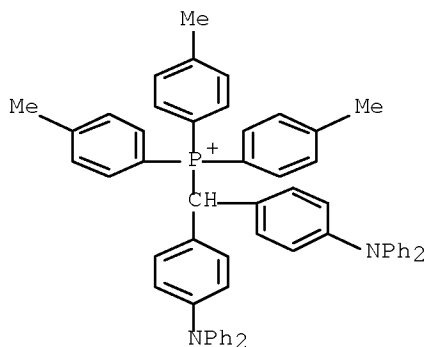
RN 848629-15-2 HCAPLUS

CN Phosphonium, [bis[4-(diphenylamino)phenyl]methyl]tris(4-methylphenyl)-, tetrafluoroborate(1-) (1:1) (CA INDEX NAME)

CM 1

CRN 848629-14-1

CMF C58 H50 N2 P

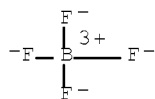


CM 2

CRN 14874-70-5

CMF B F4

CCI CCS



CC 22-4 (Physical Organic Chemistry)  
Section cross-reference(s): 29

10/568,659

IT 848629-05-0P 848629-07-2P 848629-09-4P 848629-11-8P  
848629-13-0P ~~848629-15-2P~~ 848629-17-4P 848629-19-6P  
848629-21-0P 848629-23-2P 848629-25-4P 848629-27-6P  
848629-29-8P

(kinetics of quaternization of phosphorus nucleophiles by  
benzhydrylium cations and nucleophilicity parameters for phosphines  
and phosphites)

OS.CITING REF COUNT: 29 THERE ARE 29 CAPLUS RECORDS THAT CITE THIS  
RECORD (31 CITINGS)  
REFERENCE COUNT: 68 THERE ARE 68 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L38 ANSWER 7 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2004:988776 HCAPLUS Full-text

DOCUMENT NUMBER: 142:114945

TITLE: Low loss second-order non-linear optical  
crosslinked polymers based on a  
phosphorus-containing maleimide

AUTHOR(S): Chen, Chih-Ping; Huang, Gwo-Su; Jeng, Ru-Jong;  
Chou, Che-Chung; Su, Wen-Chiung; Chang, Huey-Ling

CORPORATE SOURCE: Department of Chemical Engineering, National Chung  
Hsing University, Taichung, 402, Taiwan

SOURCE: Polymers for Advanced Technologies (2004  
, 15(10), 587-592

CODEN: PADTE5; ISSN: 1042-7147

PUBLISHER: John Wiley & Sons Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 18 Nov 2004

AB A series of crosslinked organic and organic/inorg. polymers based on maleimide  
chemical have been investigated for second-order non-linear optical (NLO)  
materials with excellent thermal stability and low optical loss. Two reactive  
chromophores (maleimide-containing azobenzene dye and alkoxysilane-containing  
azobenzene dye) were incorporated into a phosphorus-containing maleimide  
polymer, resp. The selection of the phosphorus-containing maleimide polymer  
as the polymeric matrixes provides enhanced solubility and thermal stability,  
and excellent optical quality. Moreover, a full interpenetrating network (IPN)  
was formed through simultaneous addition reaction of the phosphorus-containing  
maleimide, and sol-gel process of alkoxysilane dye (ASD). Atomic force  
microscopy (AFM) results indicate that the inorg. networks are distributed  
uniformly throughout the polymer matrixes on a nano-scale. The silica  
particle sizes are well under 100 nm. Using in situ contact poling, the r33  
coeffs. of 2.2-17.0 pm/V have been obtained for the optically clear  
phosphorus-containing NLO materials. Excellent temporal stability (100°C) and  
low optical loss (0.99-1.71 dB/cm; 830 nm) were also obtained for these  
phosphorus-containing materials.

IT ~~820255-12-7P~~

(low loss second-order non-linear optical crosslinked polymers  
based on a phosphorus-containing maleimide)

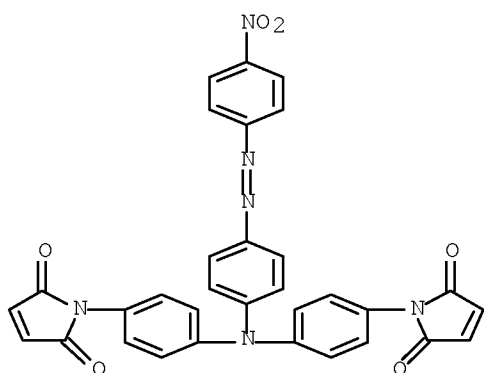
RN 820255-12-7 HCAPLUS

CN 1H-Pyrrole-2,5-dione, 1,1'-[[[4-[(4-nitrophenyl)azo]phenyl]imino]di-  
4,1-phenylene]bis-, polymer with  
1,1'-[(phenylphosphinyldiene)di-3,1-phenylene]bis[1H-pyrrole-2,5-  
dione] (9CI) (CA INDEX NAME)

CM 1

CRN 500615-46-3

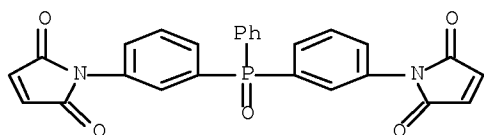
CMF C32 H20 N6 O6



CM 2

CRN 347308-29-6

CMF C26 H17 N2 O5 P



CC 37-5 (Plastics Manufacture and Processing)

Section cross-reference(s): 73

IT 347308-33-2P 820255-12-7P 820255-14-9P 820260-38-6P

(low loss second-order non-linear optical crosslinked polymers  
based on a phosphorus-containing maleimide)OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS  
RECORD (10 CITINGS)REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L38 ANSWER 8 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2004:876843 HCAPLUS Full-text

DOCUMENT NUMBER: 141:372807

TITLE: Light-sensitive material compositions for  
lithographic printing plate precursors

INVENTOR(S): Shibuya, Akinori

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 87 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

10/568,659

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004295012	A	20041021	JP 2003-90715	20030328
PRIORITY APPLN. INFO.:			JP 2003-90715	20030328

OTHER SOURCE(S): MARPAT 141:372807

ED Entered STN: 22 Oct 2004

AB The title composition contains a photosensitizing dye, and a light-sensitive radical-, acid-, or base-generator, and compds. irreversibly changing the phys. properties by reacting with the generated acid, radical, or base, wherein the photosensitizing dye has general structure Dye-L-M(Dye = main photosensitizing dye group; L = 2-valent connecting organic group; M = acceptor having lower reduction potential than the oxidation potential of Dye). The composition shows high sensitivity toward laser beam generated by inexpensive semiconductor laser apparatus and good handling under light and provides printing plates of high printing durability.

IT 778610-61-0P

(photosensitizing dye in light-sensitive material compns.)

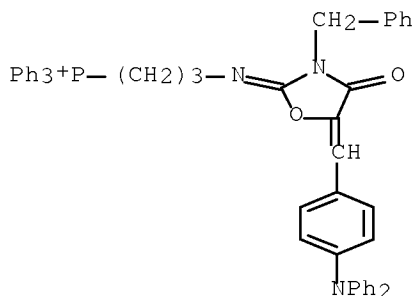
RN 778610-61-0 HCAPLUS

CN Phosphonium, [3-[[5-[[4-(diphenylamino)phenyl]methylene]-4-oxo-3-(phenylmethyl)-2-oxazolidinylidene]amino]propyl]triphenyl-, hexafluorophosphate(1-) (1:1) (CA INDEX NAME)

CM 1

CRN 778610-60-9

CMF C50 H43 N3 O2 P

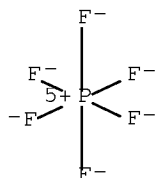


CM 2

CRN 16919-18-9

CMF F6 P

CCI CCS



IC ICM G03F007-004  
ICS G03F007-00

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 41

IT 778610-34-7P 778610-37-0P 778610-40-5P 778610-42-7P  
778610-44-9P 778610-46-1P 778610-48-3P 778610-50-7P  
778610-52-9P 778610-55-2P 778610-57-4P 778610-59-6P  
~~778610-61-0P~~ 778610-63-2P 778610-65-4P 778610-67-6P  
778610-69-8P 778610-71-2P 778610-74-5P 778610-78-9P  
(photosensitizing dye in light-sensitive material compns.)

L38 ANSWER 9 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2004:783747 HCAPLUS Full-text

DOCUMENT NUMBER: 141:412439

TITLE: Electronic modulation of dithienothiophene (DTT)  
as  $\pi$ -center of D- $\pi$ -D chromophores on optical  
and redox properties: Analysis by UV-Vis-NIR and  
Raman spectroscopies combined with  
electrochemistry and quantum chemical DFT  
calculations

AUTHOR(S): Ponce Ortiz, Rocio; Ruiz Delgado, Mari Carmen;  
Casado, Juan; Hernandez, Victor; Kim, Oh-Kil; Woo,  
Han Young; Lopez Navarrete, Juan T.

CORPORATE SOURCE: Facultad de Ciencias, Departamento de Quimica  
Fisica, Universidad de Malaga, Malaga, 29071,  
Spain

SOURCE: Journal of the American Chemical Society (  
2004), 126(41), 13363-13376  
CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:412439

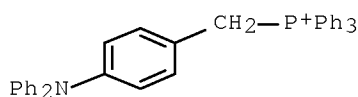
ED Entered STN: 27 Sep 2004

AB In this paper, we study three prepared sym. D- $\pi$ -D chromophores containing  
dithieno[3,2-b:2',3'-d]thiophene (DTT) as the  $\pi$ -center and various donor end  
moieties, by means of UV-visible-NIR and FT-Raman spectroscopy and in-situ  
spectroelectrochem. The compds. display dual redox properties: all exhibited  
two oxidns. and single stable reduction peaks contrarily to the one or two  
oxidns. and no reduction which could be anticipated in view of their chemical  
structures. We analyze the possible electronic modulation by the  $\pi$ -conjugated  
DTT relay in the redox process and electronic coupling between the two  
electron donor (D) units attached through conjugation to opposite sides of the  
 $\pi$ -linker. To this end, the UV-visible-NIR and FT-Raman spectra of the neutral  
compds. and of the charged species generated upon in-situ p- or n-doping have  
been recorded and interpreted with the help of d. functional theory calcns.  
The anal. of the peculiar Raman features of these  $\pi$ -conjugated chromophores is  
guided by the formalism of the effective conjugation coordinate theory. This  
research shows that the Raman spectroscopic characterization of this type of  
D- $\pi$ -D structures is a powerful tool to derive information about their  $\pi$ -  
conjugational properties in the pristine and doped states.

IT ~~183994-95-8~~  
(starting material; preparation and electronic modulation of  
dithienothiophene D- $\pi$ -D chromophore optical and redox  
properties)

10/568,659

RN 183994-95-8 HCAPLUS  
CN Phosphonium, [[4-(diphenylamino)phenyl]methyl]triphenyl-, bromide  
(1:1) (CA INDEX NAME)



CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and  
Photographic Sensitizers)  
Section cross-reference(s): 22, 72, 73  
IT 67061-73-8 177087-91-1 ~~183994-95-8~~ 263720-99-6  
(starting material; preparation and electronic modulation of  
dithienothiophene D- $\pi$ -D chromophore optical and redox  
properties)  
OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS  
RECORD (3 CITINGS)  
REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

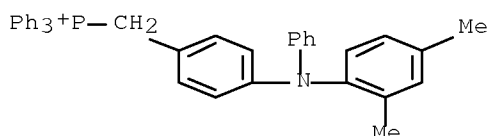
L38 ANSWER 10 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2003:443329 HCAPLUS Full-text  
DOCUMENT NUMBER: 139:245714  
TITLE: Polyaromatic amines. Part 3: Synthesis of  
poly(diarylamino)styrenes and related compounds  
AUTHOR(S): Plater, M. John; Jackson, Toby  
CORPORATE SOURCE: Department of Chemistry, University of Aberdeen,  
Aberdeen, AB24 3UE, UK  
SOURCE: Tetrahedron (2003), 59(25), 4673-4685  
CODEN: TETRAB; ISSN: 0040-4020  
PUBLISHER: Elsevier Science B.V.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 139:245714

ED Entered STN: 10 Jun 2003

AB The title compds. were synthesized and characterized as part of a study into  
new aromatic amines for charge transporting materials. Alkene-linked  
triarylamines, hydrazone derivs., and pyrrole-substituted triarylamines were  
prepared Each compound was characterized by cyclic voltammetry.

IT ~~596103-61-6P~~  
(preparation and cyclic voltammetry of poly(diarylamino)styrenes and  
related compds.)

RN 596103-61-6 HCAPLUS  
CN Phosphonium, [[4-[(2,4-  
dimethylphenyl)phenylamino]phenyl]methyl]triphenyl-, bromide (1:1)  
(CA INDEX NAME)



CC 25-4 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)  
 Section cross-reference(s): 76  
 IT 2873-76-9P 4546-04-7P 6566-57-0P 17919-34-5P 18226-42-1P  
 20248-86-6P, 4,4'-Bis(bromomethyl)biphenyl 27329-60-8P 30186-39-1P  
 42906-19-4P 56875-38-8P 92636-36-7P 94788-29-1P 596103-60-5P  
~~596103-61-6P~~ 596103-66-1P  
 (preparation and cyclic voltammetry of poly(diarylamino)styrenes and  
 related compds.)  
 OS.CITING REF COUNT: 44 THERE ARE 44 CAPLUS RECORDS THAT CITE THIS  
 RECORD (45 CITINGS)  
 REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

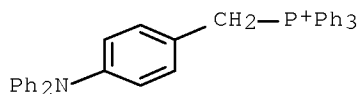
L38 ANSWER 11 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 2003:390863 HCAPLUS Full-text  
 DOCUMENT NUMBER: 138:386856  
 TITLE: Two-photon absorption materials based on  
 dithienothiophene  
 INVENTOR(S): Kim, Oh-Kil; Woo, Han Young; Kim, Kie-Soo; Lee,  
 Kwang-Sup  
 PATENT ASSIGNEE(S): The United States of America as Represented by the  
 Secretary of the Navy, USA  
 SOURCE: U.S., 8 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6566529	B1	20030520	US 2000-574256	20000519
			<--	
PRIORITY APPLN. INFO.:			US 2000-574256	20000519
			<--	

OTHER SOURCE(S): MARPAT 138:386856  
 ED Entered STN: 22 May 2003  
 AB This invention pertains to two-photon-absorbing dithieno[3,2-b:2',3'-  
 d]thiophene-based compds. containing electron donors and/or electron acceptors  
 and having cross section value  $\sigma$  that is higher than the fluorene-based  
 compound AF-50. Synthesis examples were given which started with  
 dithieno[3,2-b:2',3'-d]thiophene-2,6- dicarboxaldehyde and various amines.  
 IT ~~183994-95-8~~  
 (starting material; production of two-photon absorption materials based  
 on dithienothiophene)  
 RN 183994-95-8 HCAPLUS

10/568,659

CN Phosphonium, [[4-(diphenylamino)phenyl]methyl]triphenyl-, bromide  
(1:1) (CA INDEX NAME)



IC ICM C07D413-10  
ICS C07D413-14  
INCL 548145000; 548444000; 549031000  
CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and  
Photographic Sensitizers)  
Section cross-reference(s): 27, 28  
IT 67061-73-8, Dithieno[3,2-b:2',3'-d]thiophene-2,6-dicarboxaldehyde  
~~183994-95-8~~ 253878-39-6 263720-99-6 402962-03-2  
(starting material; production of two-photon absorption materials based  
on dithienothiophene)  
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS  
RECORD (2 CITINGS)  
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L38 ANSWER 12 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2002:90034 HCAPLUS Full-text  
DOCUMENT NUMBER: 136:136245  
TITLE: Hyperpolarizable organic chromophores  
INVENTOR(S): Dalton, Larry R.; Jen, Alex Kwan-Yue; Londergan,  
Timothy; Carlson, William Brenden; Phelan,  
Gregory; Huang, Diyun; Casmier, Daniel; Ewy, Todd;  
Buker, Nicholas  
PATENT ASSIGNEE(S): University of Washington, USA  
SOURCE: PCT Int. Appl., 104 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2002008215	A1	20020131	WO 2001-US23339	20010724

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,  
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,  
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,  
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,  
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,  
TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH,  
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,  
TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,

TD, TG  
CA 2417000 A1 20020131 CA 2001-2417000 20010724  
<--  
US 20020084446 A1 20020704 US 2001-912444 20010724  
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US 7029606 B2 20060418  
EP 1305305 A1 20030502 EP 2001-957237 20010724  
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PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
JP 2004508430 T 20040318 JP 2002-514121 20010724  
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US 20050179013 A1 20050818 US 2005-77607 20050311  
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US 7507840 B2 20090324  
PRIORITY APPLN. INFO.: US 2000-220321P P 20000724  
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US 2001-912444 A1 20010724  
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WO 2001-US23339 W 20010724  
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## ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 136:136245

ED Entered STN: 01 Feb 2002

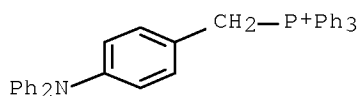
AB The present invention provides hyperpolarizable organic chromophores based on heterocyclic compds. The chromophores are nonlinear optically active compds. that include a  $\pi$ -donor conjugated to a  $\pi$ -acceptor through a  $\pi$ -electron conjugated bridge. Macromol. structures including the hyperpolarizable organic chromophores are also provided.

IT 183994-95-8P 392662-42-9P

(intermediate; production of donor-acceptor conjugated hyperpolarizable heterocyclic organic chromophores)

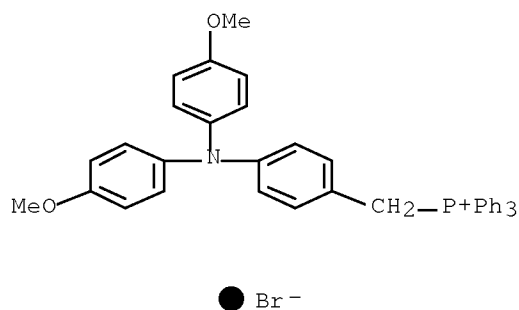
RN 183994-95-8 HCAPLUS

CN Phosphonium, [[4-(diphenylamino)phenyl]methyl]triphenyl-, bromide (1:1) (CA INDEX NAME)



RN 392662-42-9 HCAPLUS

CN Phosphonium, [[4-[bis(4-methoxyphenyl)amino]phenyl]methyl]triphenyl-, bromide (1:1) (CA INDEX NAME)



IC ICM C07D305-00  
ICS C07D307-00; C07D327-00; C07D409-00

CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)  
Section cross-reference(s): 25, 27, 28

IT 111-25-1P, Hexyl bromide 4181-05-9P, 4-(Diphenylamino)benzaldehyde  
10419-77-9P 20440-94-2P, N,N-Bis(4-methoxyphenyl)aniline  
25069-40-3P 51751-44-1P, 3,3'-Dibromo-2,2'-bithiophene 81956-28-7P  
81956-31-2P 89115-20-8P, 4-[Bis(4-methoxyphenyl)amino]benzaldehyde  
125143-53-5P, 3,3',5,5'-Tetrabromo-2,2'-bithiophene 125607-30-9P,  
3,3'-Diethyl-2,2'-bithiophene ~~183994-95-8P~~ 351444-78-5P  
390417-74-0P ~~392662-42-9P~~ 392662-43-0P 392662-46-3P  
392662-47-4P 392662-48-5P 392662-49-6P 392662-50-9P  
392662-51-0P 392662-52-1P 392662-57-6P 392662-58-7P  
392662-61-2P 392662-62-3P 392662-64-5P 392662-66-7P  
(intermediate; production of donor-acceptor conjugated hyperpolarizable heterocyclic organic chromophores)

OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS RECORD (14 CITINGS)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 13 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2001:929709 HCAPLUS Full-text

DOCUMENT NUMBER: 136:238663

TITLE: Two-photon and optical power limiting properties of fluorene and thiophene derivatives

AUTHOR(S): Lee, Kwang-Sup; Lee, Jong-Hyoun; Kim, Kie-Soo; Woo, Han-Young; Kim, Oh-Kil; Choi, Haeyoung; Cha, Myoungsik; He, Guang S.; Swiatkiewicz, Jacek; Prasad, Paras N.; Chung, Myoung-Ae; Jung, Sang-Don

CORPORATE SOURCE: Department of Polymer Science and Engineering, Hannam University, Taejon, 306-791, S. Korea

SOURCE: MCLC S&T, Section B: Nonlinear Optics (2001), 27(1-4), 87-100  
CODEN: MCLOEB; ISSN: 1058-7268

PUBLISHER: Gordon & Breach Science Publishers

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 26 Dec 2001

AB The authors synthesized novel two-photon absorption (TPA) chromophores which contained fluorene (Flu) or dithienothiophene (DTT) moieties as  $\pi$ -center in which the  $\pi$ -center units are linked through  $\pi$ -conjugation to electron-donor (D) or electron-acceptor (A) groups at each end, forming sequenced structures

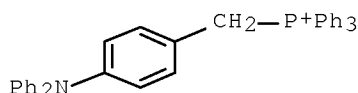
such as D- $\pi$ -D or D- $\pi$ -A. Here, for D unit carbazole or tri-Ph amine were employed and 2-phenyl-5-(4-tert-butyl)-1,3,4-oxadiazole was used as A unit. The TPA cross-section value ( $\sigma$ ) for the chromophores were measured by nonlinear transmission using 8 ns laser pulse. The  $\sigma$  values attained by DTT-based chromophores were exceptionally large and increased with D strength and structural symmetry, D-DTT-D. Such a distinct mol. TPA activity is assumed mainly due to the unique electronic properties of DTT. Optical power limiting (OPL) behavior of the samples was studied by using an optical parametric oscillator with a beta-Ba borate crystal. The mol. D-DTT-D gave the best OPL performance among all mols. under study. The trend in OPL activity agrees well with the TPA values.

IT 183994-95-8

(two-photon and optical power limiting properties of fluorene and thiophene derivs.)

RN 183994-95-8 HCAPLUS

CN Phosphonium, [[4-(diphenylamino)phenyl]methyl]triphenyl-, bromide (1:1) (CA INDEX NAME)



CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 22

IT 102-82-9, Tributylamine 865-48-5 3375-31-3 6163-58-2,  
Tri-o-tolylphosphine 25069-74-3 67061-73-8 183994-95-8  
188200-93-3 253878-39-6 263720-99-6 402962-01-0 402962-03-2  
(two-photon and optical power limiting properties of fluorene and thiophene derivs.)

OS.CITING REF COUNT: 12 THERE ARE 12 CAPLUS RECORDS THAT CITE THIS RECORD (12 CITINGS)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 14 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2001:527868 HCAPLUS Full-text

DOCUMENT NUMBER: 135:257293

TITLE: Multidimensional Electron Transfer Pathways in a Tetrahedral

Tetrakis{4-[N,N-di(4-methoxyphenyl)amino]phenyl}Phosphonium Salt: One-Step vs Two-Step Mechanism

AUTHOR(S): Lambert, Christoph; Noell, Gilbert; Hampel, Frank

CORPORATE SOURCE: Institut fuer Organische Chemie, Julius-Maximilians-Universitaet Wuerzburg, Wuerzburg, 97074, Germany

SOURCE: Journal of Physical Chemistry A (2001), 105(32), 7751-7758

CODEN: JPCAFH; ISSN: 1089-5639

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 23 Jul 2001

AB Different electron-transfer pathways have been investigated in a three-dimensional redox system: tetrakis{4-[N,N-di(4-methoxyphenyl)amino]phenyl}phosphonium tetrafluoroborate 1+BF<sub>4</sub><sup>-</sup> which comprises of four triarylamine redox centers arranged in a pseudo-tetrahedral geometry. Using a UV/Vis/NIR spectroelectrochem. setup we generated the mixed-valence species 12+, 13+, and 14+ and measured the UV/Vis/NIR spectra. These spectra were analyzed and interpreted according to a multi-dimensional Marcus-Hush approach. The anal. revealed that both the photoexcited as well as the thermal ET in 13+ are forbidden as a concerted two-electron transfer but allowed as two consecutive one-electron transfer steps. The crystal structure of 1+BF<sub>4</sub><sup>-</sup> was determined

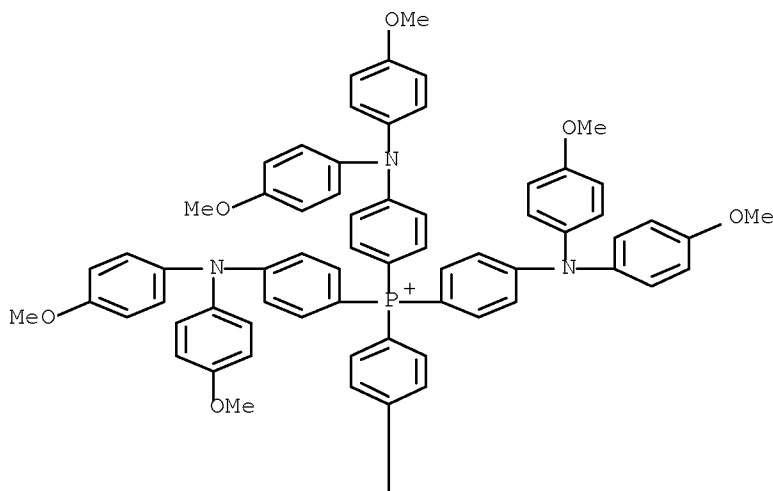
IT 361555-22-8P

(preparation and reaction with sodium tetrafluoroborate)

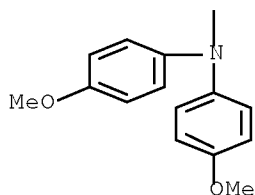
RN 361555-22-8 HCAPLUS

CN Phosphonium, tetrakis[4-[bis(4-methoxyphenyl)amino]phenyl]-, iodide (1:1) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



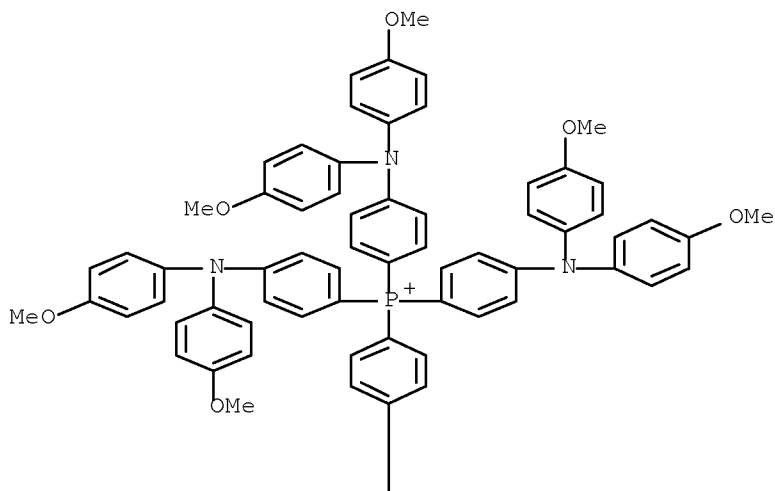
10/568,659

IT 361555-12-6P  
(preparation, crystal structure, and multidimensional electron transfer  
mechanism of)  
RN 361555-12-6 HCAPLUS  
CN Phosphonium, tetrakis[4-[bis(4-methoxyphenyl)amino]phenyl]-,  
tetrafluoroborate(1-) (1:1) (CA INDEX NAME)

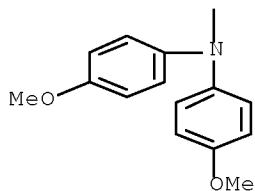
CM 1

CRN 361555-11-5  
CMF C80 H72 N4 O8 P

PAGE 1-A

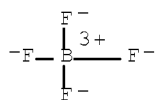


PAGE 2-A



CM 2

CRN 14874-70-5  
CMF B F4  
CCI CCS



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 22, 72, 75  
 IT 361555-22-8P  
 (preparation and reaction with sodium tetrafluoroborate)  
 IT 361555-12-6P  
 (preparation, crystal structure, and multidimensional electron transfer  
 mechanism of)  
 OS.CITING REF COUNT: 29 THERE ARE 29 CAPLUS RECORDS THAT CITE THIS  
 RECORD (29 CITINGS)  
 REFERENCE COUNT: 85 THERE ARE 85 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L38 ANSWER 15 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2001:400200 HCAPLUS Full-text

DOCUMENT NUMBER: 135:226644

TITLE: Cationic  $\pi$ -electron systems with high quadratic  
 hyperpolarizability

AUTHOR(S): Lambert, Christoph; Gaschler, Wolfgang; Noll,  
 Gilbert; Weber, Matthias; Schmalzlin, Elmar;  
 Brauchle, Christoph; Meerholz, Klaus

CORPORATE SOURCE: Institut fur Organische Chemie,  
 Julius-Maximilians-Universitat Wurzburg, Wurzburg,  
 D-97074, Germany

SOURCE: Journal of the Chemical Society, Perkin  
 Transactions 2 (2001), (6), 964-974  
 CODEN: JCSPGI; ISSN: 1472-779X

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 05 Jun 2001

AB Cationic NLO-chromophores based on tolane  $\pi$ -systems in which conventional  
 electron donors are combined with ionic pyridinio or triorganoammonio and -  
 phosphonio substituents, resp., perform much better than conventional  
 donor/acceptor-substituted (D/A-substituted) tolanes concerning their  
 hyperpolarizability-transparency trade-off. This effect occurs because ionic  
 acceptors do not enlarge the  $\pi$ -system in contrast to conventional acceptors.  
 The same holds true for benzene-type chromophores. Despite their different  
 electronic nature, the extrapolated maximal high-energy absorption of the  
 ionic chromophore series as well as of the conventional donor/acceptor-tolanes  
 coincide at the absorption energy of unsubstituted tolane. This proves that  
 the maximal blue transparency of a given series of substituted chromophores is  
 governed by the absorption maximum of the unsubstituted parent chromophore.  
 In this way chromophores have been designed with much higher quadratic  
 hyperpolarizability than e.g. p-nitroaniline at about the same absorption  
 wavelength. By applying the same concept, a two- and a three-dimensional  
 highly efficient octupolar NLO-chromophore assembly has also been synthesized.

IT 359647-31-7P 359647-47-5P

(cationic  $\pi$ -electron systems with high quadratic  
 hyperpolarizability)

RN 359647-31-7 HCAPLUS

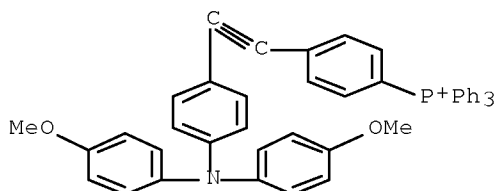
10/568,659

CN Phosphonium, [4-[2-[4-[bis(4-methoxyphenyl)amino]phenyl]ethynyl]phenyl]triphenyl-, tetrafluoroborate(1-) (1:1) (CA INDEX NAME)

CM 1

CRN 359647-30-6

CMF C46 H37 N O2 P

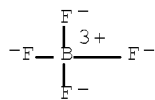


CM 2

CRN 14874-70-5

CMF B F4

CCI CCS



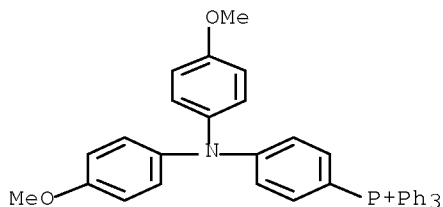
RN 359647-47-5 HCAPLUS

CN Phosphonium, [4-[bis(4-methoxyphenyl)amino]phenyl]triphenyl-, tetrafluoroborate(1-) (1:1) (CA INDEX NAME)

CM 1

CRN 359647-46-4

CMF C38 H33 N O2 P

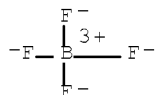


CM 2

CRN 14874-70-5

CMF B F4

CCI CCS



CC 22-9 (Physical Organic Chemistry)

Section cross-reference(s): 29, 73

IT 175859-96-8P 175859-99-1P 359647-28-2P ~~359647-31-7P~~  
 359647-34-0P 359647-37-3P 359647-40-8P 359647-43-1P  
~~359647-47-5P~~

(cationic  $\pi$ -electron systems with high quadratic  
 hyperpolarizability)

OS.CITING REF COUNT: 37 THERE ARE 37 CAPLUS RECORDS THAT CITE THIS  
 RECORD (37 CITINGS)

REFERENCE COUNT: 85 THERE ARE 85 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L38 ANSWER 16 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2000:521367 HCAPLUS Full-text

DOCUMENT NUMBER: 133:208256

TITLE: Synthesis of poly(arylene ether)s containing  
 hole-transport moieties from an isocyanate masked  
 bisphenol

AUTHOR(S): Lu, Jianping; Hlil, Antisar R.; Hay, Allan S.;  
 Maindron, Tony; Dodelet, Jean-Pol; Lam, Jennifer;  
 D'Iorio, Marie

CORPORATE SOURCE: Department of Chemistry, McGill University,  
 Montreal, QC, H3A 2K6, Can.

SOURCE: Journal of Polymer Science, Part A: Polymer  
 Chemistry (2000), 38(15), 2740-2748  
 CODEN: JPACEC; ISSN: 0887-624X

PUBLISHER: John Wiley &amp; Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 01 Aug 2000

AB The design and synthesis of novel charge (hole- or electron-) transport materials have been the focus of much research in recent years because of their wide variety of applications. In this study, three high mol. weight poly(arylene ether)s, 6a-c, containing naphthyl-substituted benzidine moieties have been synthesized from carbamates derived from bisphenols. After masking with Pr isocyanate, the carbamate is stable, can be readily purified by recrystn. from toluene, and can be polymerized directly with difluoro compds. under mild conditions. The resulting polymers possess high glass-transition temps., excellent thermal stability, and good film-forming properties. In comparison, the poly(arylene ether)s 6a'-c', synthesized from unprotected bisphenol, have lower mol. wts. and wider polydispersity and contain some brown impurities. Preliminary expts. show that both 6a and 6a' can function well as hole-transport materials in light-emitting diodes.

IT 290815-97-3P 290816-05-6P  
 (synthesis of poly(arylene ether)s containing hole-transport moieties  
 from an isocyanate masked bisphenol)

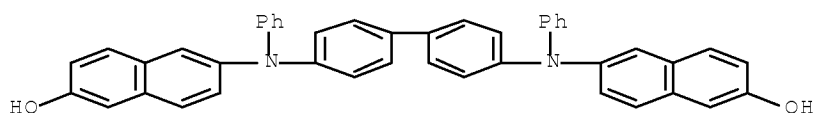
RN 290815-97-3 HCAPLUS

CN 2-Naphthalenol, 6,6'-[[1,1'-biphenyl]-4,4'-diylbis(phenylimino)]bis-,  
 polymer with bis(4-fluorophenyl)phenylphosphine oxide (9CI) (CA INDEX  
 NAME)

CM 1

CRN 290815-93-9

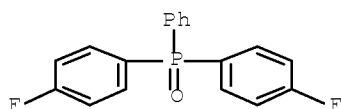
CMF C44 H32 N2 O2



CM 2

CRN 54300-32-2

CMF C18 H13 F2 O P



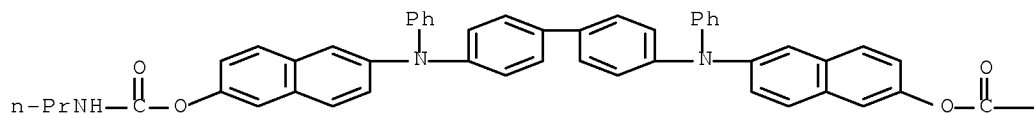
RN 290816-05-6 HCAPLUS

CN Carbamic acid, propyl-, [1,1'-biphenyl]-4,4'-diylbis[(phenylimino)-6,2-  
 naphthalenediyl] ester, polymer with  
 bis(4-fluorophenyl)phenylphosphine oxide (9CI) (CA INDEX NAME)

CM 1

CRN 290815-94-0

CMF C52 H46 N4 O4



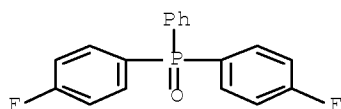
PAGE 1-A

—NHPr-n

CM 2

CRN 54300-32-2

CMF C18 H13 F2 O P



CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 73, 76

IT 290815-95-1P 290815-96-2P ~~290815-97-3P~~ 290815-98-4P  
 290815-99-5P 290816-01-2P 290816-03-4P ~~290816-05-6P~~  
 290816-07-8P

(synthesis of poly(arylene ether)s containing hole-transport moieties  
 from an isocyanate masked bisphenol)

OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS  
 RECORD (10 CITINGS)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L38 ANSWER 17 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2000:208426 HCAPLUS Full-text

DOCUMENT NUMBER: 132:285675

TITLE: Electronic/photonic property modulations of  
 D- $\pi$ -D(A) chromophores by DTT as  $\pi$ -center

AUTHOR(S): Kim, O.-K.; Woo, H. Y.; Heuer, W. B.; Kim, K.-S.;  
 Lee, K.-S.

CORPORATE SOURCE: Chemistry Division, Naval Research laboratory,  
 Washington, DC, 20375-5342, USA

SOURCE: Polymer Preprints (American Chemical Society,  
 Division of Polymer Chemistry) (2000),  
 41(1), 795-796

CODEN: ACPPAY; ISSN: 0032-3934

PUBLISHER: American Chemical Society, Division of Polymer  
 Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 31 Mar 2000

AB A synthesis and characterization of multifunctional chromophores (of D- $\pi$ -D and  
 D- $\pi$ -A structures) and their electronic and optical properties that are  
 modulated by the  $\pi$  center are studied. Also electrochem. data (reduction and  
 oxidation potentials) are assessed by cyclic voltammetry. The two-photon

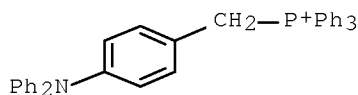
absorption and cross-section data and their dependence on the benzenoid  $\pi$ -center are discussed.

IT 183994-95-8

(electronic/photonic property modulations of D- $\pi$ -D(A)  
chromophores by DTT as  $\pi$ -center prepared using)

RN 183994-95-8 HCAPLUS

CN Phosphonium, [[4-(diphenylamino)phenyl]methyl]triphenyl-, bromide  
(1:1) (CA INDEX NAME)



CC 73-4 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 22, 28, 72

IT 67061-73-8 183994-95-8 253878-39-6 263720-99-6

(electronic/photonic property modulations of D- $\pi$ -D(A)  
chromophores by DTT as  $\pi$ -center prepared using)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS  
RECORD (2 CITINGS)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L38 ANSWER 18 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1996:739974 HCAPLUS Full-text

DOCUMENT NUMBER: 126:39448

ORIGINAL REFERENCE NO.: 126:7713a, 7716a

TITLE: Organic electroluminescent device with styrylamine  
derivatives

INVENTOR(S): Azuma, Hisahiro; Hosokawa, Chishio; Hironaka,  
Yoshio

PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

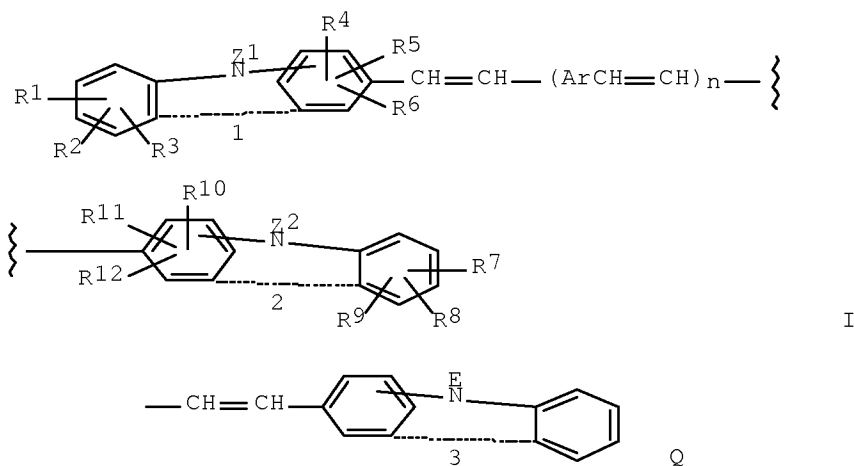
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 08239655	A	19960917	JP 1995-45504	19950306
			<--	
JP 3724833	B2	20051207		
PRIORITY APPLN. INFO.:			JP 1995-45504	19950306
			<--	

OTHER SOURCE(S): MARPAT 126:39448

ED Entered STN: 16 Dec 1996

GI



AB The device contains  $\geq 2$  electron-donating styryl compds. in an organic functional layer containing an emitting layer retained by a pair of electrodes, wherein the electron-donating styryl compound contains  $\geq 1$  vinylene(s) in which both terminals are connected to (hetero) aromatic cycles. The styryl compds. may be styrylamines I [R1-12 = H, halo, C1-10 alkyl, C1-10 alkoxy, C6-18 aryloxy, Ph, (substituted) NH<sub>2</sub>, OH, Q; Z1, Z2, E = H, C1-10 alkyl, (substituted) C6-20 aryl, (substituted) C7-20 aralkyl, (substituted) C6-20 arylene, C4-20 divalent aromatic heterocycle, divalent (substituted) triarylamino, where the substituent is C1-10 alkyl, C1-10 alkoxy, C6-18 aryloxy, Ph, NH<sub>2</sub>, CN, NO<sub>2</sub>, OH, halo; the broken lines 1-3 indicate heterocyclic structures; n = 0, 1, 2]. The device emits blue light with high emitting effectivity and good color purity.

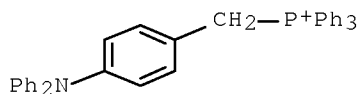
IT 183994-95-8P

(in preparation of styrylamine derivative for organic electroluminescent device

with high luminance)

RN 183994-95-8 HCAPLUS

CN Phosphonium, [[4-(diphenylamino)phenyl]methyl]triphenyl-, bromide (1:1) (CA INDEX NAME)



IC ICM C09K011-06

ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 25069-40-3P 183994-94-7P ~~183994-95-8P~~

(in preparation of styrylamine derivative for organic electroluminescent device

with high luminance)

OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS  
RECORD (4 CITINGS)

L38 ANSWER 19 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1993:90868 HCAPLUS Full-text

DOCUMENT NUMBER: 118:90868

ORIGINAL REFERENCE NO.: 118:15755a,15758a

TITLE: Preparation of bis[bis(diphenylamino)phenyl]  
compounds and electrophotographic photoreceptors  
using them

INVENTOR(S): Iwasaki, Hiroaki

PATENT ASSIGNEE(S): Mita Industrial Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

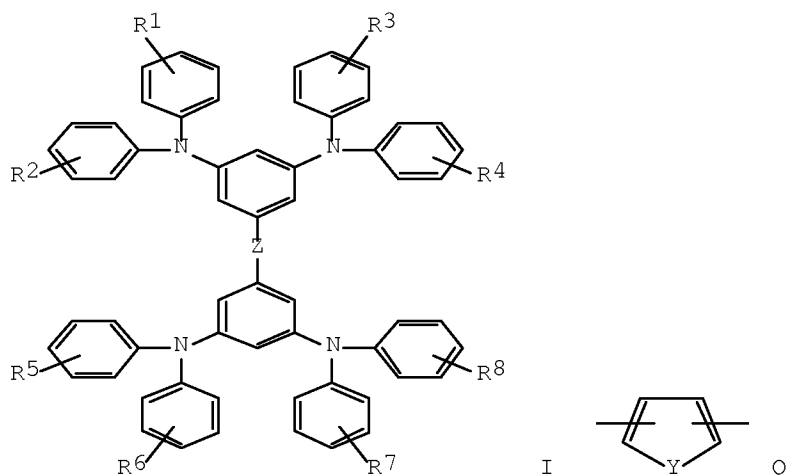
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 04279672	A	19921005	JP 1991-40269	19910306
			<--	
PRIORITY APPLN. INFO.:			JP 1991-40269	19910306
			<--	

ED Entered STN: 02 Mar 1993

GI



AB The title compds. I [R1-8 = H, halo, alkyl, alkoxy; Z = S, O, Se, Te, alkylene, (CH:CH)<sub>n</sub>, Q; Y = S, O; n = 1-2] and electrophotog. photoreceptors having a photosensitive layer containing I on an elec.-conducting support are

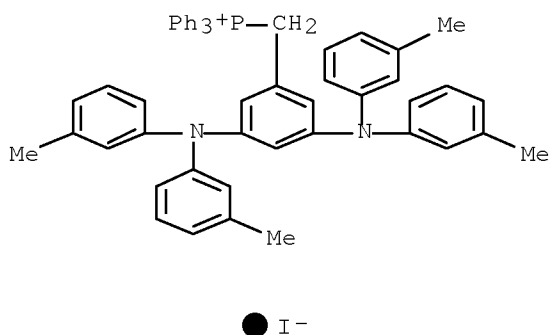
claimed. I are light-stable, and electrophotog. photoreceptors using I as charge-transporting agents are excellent in sensitivity and durability.

IT 145933-38-6

(reaction of, electrophotog. photoreceptor charge-transporting agents from)

RN 145933-38-6 HCAPLUS

CN Phosphonium, [[3,5-bis[bis(3-methylphenyl)amino]phenyl)methyl]triphenyl-, iodide (1:1) (CA INDEX NAME)



IC ICM C09B053-00

ICS C07D307-52; G03G005-06

ICA C07D333-12; C07D333-20

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 25

IT 145933-38-6

(reaction of, electrophotog. photoreceptor charge-transporting agents from)

L38 ANSWER 20 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1990:633311 HCAPLUS Full-text

DOCUMENT NUMBER: 113:233311

ORIGINAL REFERENCE NO.: 113:39359a,39362a

TITLE: Novel laser dyes: some bridged pentamethine phosphinines

AUTHOR(S): Luo, Weimei; Zhu, Zhenghua; Yao, Zhuguang; He, Mengzhen; Wang, Bingkui

CORPORATE SOURCE: East China Univ. Chem. Technol., Shanghai, 200237, Peop. Rep. China

SOURCE: Dyes and Pigments (1990), 14(3), 211-16  
CODEN: DYPIDX; ISSN: 0143-7208

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 22 Dec 1990

AB Six novel pentamethine phosphinines were prepared and their structures were determined by <sup>1</sup>H NMR. Their fluorescent properties and lasing characteristics were examined in DMSO with a nitrogen laser as the pumping source. Dyes with Ph<sub>2</sub>N or PhMeN groups on the meso position of the bridge of the polymethine chain showed larger Stokes shift and higher lasing efficiency. The tunable range was 7600-8300 Å and the energy conversion efficiency was 2.4-5.3% at the maximum emission wavelength.

IT 130734-05-3P

(preparation of, as laser dyes)

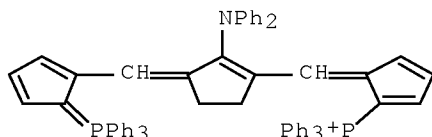
RN 130734-05-3 HCAPLUS

CN Phosphonium, [5-[[2-(diphenylamino)-3-[[5-(triphenylphosphoranylidene)-1,3-cyclopentadien-1-yl]methylene]-1-cyclopenten-1-yl]methylene]-1,3-cyclopentadien-1-yl]triphenyl-, perchlorate (1:1) (CA INDEX NAME)

CM 1

CRN 130734-04-2

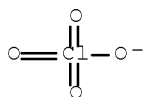
CMF C65 H52 N P2



CM 2

CRN 14797-73-0

CMF Cl O4



CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

IT 1439-45-8P ~~130734-05-3P~~ 130734-09-7P 130734-11-1P  
130734-13-3P 130734-15-5P

(preparation of, as laser dyes)

L38 ANSWER 21 OF 21 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1984:121192 HCAPLUS Full-text

DOCUMENT NUMBER: 100:121192

ORIGINAL REFERENCE NO.: 100:18449a,18452a

TITLE: Oxocarbons and related compounds. 4.  
Cyclobutenediones with triorganylphosphonium  
substituents: new squaric acid derivatives and  
representatives of push-pull substituted  
pseudo-oxocarbons

AUTHOR(S): Schmidt, Arthur H.; Aime, Amokrane

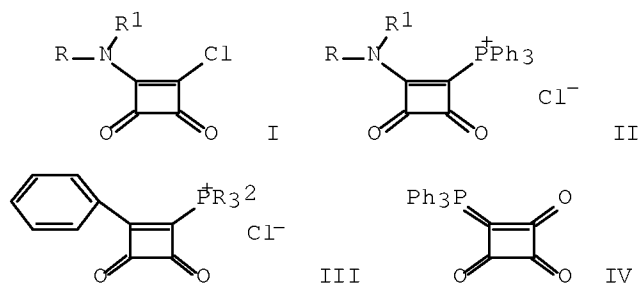
CORPORATE SOURCE: Abt. Org. Chem. Biochem., Fachhochsch. Fresenius,  
Wiesbaden, D-6200, Fed. Rep. Ger.SOURCE: Chemiker-Zeitung (1983), 107(10),  
299-304

CODEN: CMKZAT; ISSN: 0009-2894

DOCUMENT TYPE: Journal

LANGUAGE: German

ED Entered STN: 12 May 1984  
GI



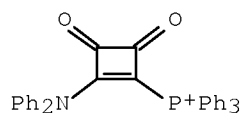
AB Reaction of the squaric acid amides I with (RNR1 = pyrrolidino, Ph2N, morphine, etc.) gave phosphonium salts II in moderate-to-good yields. (2-Phenyl-3,4-dioxocyclobutenyl)triarylphosphonium chlorides III [R2 = (un)substituted Ph] were obtained similarly from phenylchlorocyclobutenediones and triarylphosphines. The phosphonium betaine IV is generated in a 3-component reaction from perchlorocyclobutenone, Ph3P and H2O.

IT 89029-38-9P

(preparation of)

RN 89029-38-9 HCAPLUS

CN Phosphonium, [2-(diphenylamino)-3,4-dioxo-1-cyclobuten-1-yl]triphenyl-, chloride (1:1) (CA INDEX NAME)



● Cl-

CC 29-7 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 24

IT 62085-99-8P    89029-34-5P    89029-35-6P    89029-36-7P    89029-37-8P

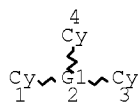
~~89029-38-9P~~    89029-39-0P    89029-40-3P    89029-41-4P

89029-42-5P    89029-43-6P    89029-44-7P    89029-45-8P

(preparation of)

=&gt; d que 139

L3 STR



VAR G1=N/P

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

L4 SCR 1609 OR 1741

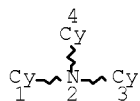
L5 SCR 2077

L6 SCR 2127

L7 SCR 1918

L8 29859 SEA FILE=REGISTRY SSS FUL L3 AND L4 AND L6 NOT (L5 OR L7)

L9 STR



NODE ATTRIBUTES:

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DEFAULT ECLEVEL IS LIMITED

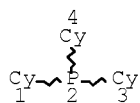
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RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

L10 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

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L16     115 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  603-34-9/CRN
L18      25 SEA FILE=REGISTRY SUB=L8 SSS FUL L9 AND L10
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L20     938 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L14
L21    24013 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L13
L22    2344 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L15
L23     204 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L16
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L25    67297 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  "POLYMERS,
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          OR POLYMER?)
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L29      5 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L27 AND OPTIC?/SC,
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          DEVICE?
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          RGANOLUM!N? OR (ELECTRO OR ORGANO OR ORG#)(2A)LUM!N? OR L
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          L29 OR L30) OR (L32 OR L33)
L35     20 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L34 AND (1840-2006
          )/PRY,AY,PY
L36     21 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L19 AND (1840-2006
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L37      2 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L35 AND L36
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L39     18 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L35 NOT L38

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=> d l39 1-18 ibib ed abs hitstr hitind

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L39  ANSWER 1 OF 18  HCAPLUS  COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER:    2006:257140  HCAPLUS  Full-text
DOCUMENT NUMBER:     146:45106
TITLE:               Synthesis, characterization and properties of a
                    PPV conjugated polymer containing
                    triphenylamine segment
AUTHOR(S):           Zou, Yingping; Tan, Songting; Xiao, Lei; Yi, Jie;
                    Yu, Zongqiang
CORPORATE SOURCE:    Institute of Polymer Materials, Xiangtan
                    University, Xiangtan, 411105, Peop. Rep. China
SOURCE:              Gaofenzi Xuebao (2006), (1), 129-135
                    CODEN: GAXUE9; ISSN: 1000-3304
PUBLISHER:           Kexue Chubanshe
DOCUMENT TYPE:       Journal
LANGUAGE:            Chinese
OTHER SOURCE(S):     CASREACT 146:45106

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ED Entered STN: 20 Mar 2006

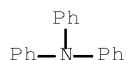
AB Diformaltriphenylamine and 1-methoxy-4-octoxyl-2,5-xylenebis(tri-phenylphosphonium chloride) were synthesized, and their copolymer (TPA-MOPPV) was obtained through a Wittig polycondensation. The structures of the monomer and copolymer were characterized by FTIR, UV-visible, <sup>1</sup>H-NMR and fluorescence spectrum. The optical properties and thermal behavior were discussed. A strong blue-greenish light, with 503 nm maximum wavelength, was observed for the copolymer in 0.01 g/L CHCl<sub>3</sub> solution. Also, concns. on photoluminescence property of the polymer was studied. The maximum excitation wavelength was .apprx.440 nm when the concentration of the copolymer was under 0.01 g/L, but the maximum excitation wavelength exceeded 492 nm after the concentration was >0.01 g/L. The copolymer is readily soluble in common organic solvents at room temperature, so it could be easy to prepare electroluminescent device by spin-coat technol. The electrochem. studies suggested the hole injection and hole transport properties could be improved because of introducing the triphenylamine units. Its electroluminescence properties were studied, a polymer light emitting diode with the TPA-MOPPV as the active layer (ITO/PEDOT: PSS/TPA-MOPPV/Ba/Al) showed greenish yellow emission with luminance over 369 cd/m<sup>2</sup> at 6 V and the low turn-on voltage (3.2 V), the maximum external quantum efficiency was 0.14%. DSC anal. showed that T<sub>g</sub> of the polymer was 23 K higher than that of triphenylamine derivs. TPD, and the results of TG indicated that the decomposition temperature of TPA-MOPPV was 208 °C and the polymer did not displays apparent weight loss until 360 °C. In a word, the polymer exhibits strong fluorescence, relatively high thermal stability, good film-forming capability, high luminance, good hole-transporting property, being a good candidate of electroluminescent material.

IT 603-34-9, Triphenylamine

(preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

RN 603-34-9 HCAPLUS

CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)

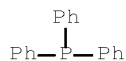


IT 603-35-0P, Triphenylphosphine, reactions

(preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

RN 603-35-0 HCAPLUS

CN Phosphine, triphenyl- (CA INDEX NAME)



CC 22-9 (Physical Organic Chemistry)  
Section cross-reference(s): 36, 73

ST prepn PPV conjugated polymer triphenylamine segment

IT IR spectra

(FTIR; preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

IT Polymers, properties

(co-; preparation, characterization, and properties of PPV conjugated

polymer containing triphenylamine segment)

IT Polymerization  
(condensation, Wittig reaction; preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

IT Polymers, properties  
(conjugated; preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

IT Luminescent substances  
(electroluminescent; preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

IT Hole (electron)  
(injection; preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

IT Wittig reaction  
(polymerization by; preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

IT Differential scanning calorimetry  
Electroluminescence  
Electroluminescent devices  
Emissivity  
Fluorescence  
Glass transition temperature  
Hole transport  
NMR (nuclear magnetic resonance)  
Optical properties  
Physical and chemical properties  
UV and visible spectra  
(preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

IT 9003-53-6D, sulfonated  
(PSS; preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

IT 864461-99-4P 864517-70-4P  
(preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

IT 50-00-0, Formaldehyde, reactions 111-83-1, Octyl bromide 150-76-5, p-Methoxyphenol 603-34-9, Triphenylamine 30525-89-4, Paraformaldehyde 53566-95-3  
(preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

IT 603-35-0P, Triphenylphosphine, reactions 110126-95-9P 196877-73-3P 252338-07-1P  
(preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

IT 7647-01-0, Hydrogen chloride, reactions  
(preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

IT 7429-90-5, Aluminum, uses 7440-39-3, Barium, uses 50926-11-9, ITO 126213-51-2, PEDOT  
(preparation, characterization, and properties of PPV conjugated polymer containing triphenylamine segment)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L39 ANSWER 2 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 2005:1155453 HCAPLUS Full-text  
 DOCUMENT NUMBER: 143:431034  
 TITLE: Materials suitable for shallow trench isolation

10/568,659

INVENTOR(S): Jin, Lei; Lu, Victor; Naman, Ananth  
 PATENT ASSIGNEE(S): Honeywell International Inc., USA  
 SOURCE: U.S. Pat. Appl. Publ., 8 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050239264	A1	20051027	US 2004-829048	20040421
			<--	
WO 2005114707	A2	20051201	WO 2005-US13497	20050420
			<--	
WO 2005114707	A3	20060126		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: US 2004-829048 A 20040421  
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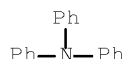
ED Entered STN: 28 Oct 2005

AB The invention relates to semiconductor device fabrication and more specifically to a method and material for forming of shallow trench isolation structures in integrated circuits. A silica dielec. film is formed by preparing a composition comprising a silicon containing pre-polymer, optionally water, and optionally a metal-ion-free catalyst selected from the group consisting of onium compds. and nucleophiles. The substrate is then coated with the composition to form a film. The film is then crosslinked to produce a gelled film. The gelled film is then heated at a temperature of from .apprx.750°. to .apprx.1000°. for a duration effective to remove substantially all organic moieties and to produce a substantially crack-free silica dielec. film.

IT 603-34-9, Triphenylamine 603-35-0,  
 Triphenylphosphine, uses  
 (dielec. film for shallow trench isolation in semiconductor device  
 fabrication for integrated circuits)

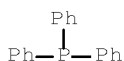
RN 603-34-9 HCAPLUS

CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



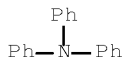
RN 603-35-0 HCAPLUS

CN Phosphine, triphenyl- (CA INDEX NAME)

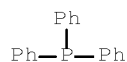


IC ICM H01L021-76  
 INCL 438424000  
 CC 76-3 (Electric Phenomena)  
 IT 67-71-0, Dimethyl sulfone 68-12-2, Dimethylformamide, uses  
 75-59-2, Tetramethylammonium hydroxide 102-71-6, Triethanolamine,  
 uses 102-87-4, Tridodecylamine 338-39-6,  
 Tetrakis(2,2,2-trifluoroethoxy)silane 429-72-1 594-09-2,  
 Trimethylphosphine 603-34-9, Triphenylamine  
 603-35-0, Triphenylphosphine, uses 682-38-2 1116-76-3,  
 Trioctylamine 1608-26-0, Hexamethylphosphorous triamide 2377-86-8  
 3410-77-3, Tetraisocyanatosilane 4731-53-7, Trioctylphosphine  
 10534-59-5, Tetraethylammonium acetate 10581-12-1,  
 Tetramethylammonium acetate 14814-27-8, Tetramethylphosphonium  
 hydroxide 52987-83-4, Tetramethylphosphonium acetate  
 (dielec. film for shallow trench isolation in semiconductor device  
 fabrication for integrated circuits)  
 OS.CITING REF COUNT: 15 THERE ARE 15 CAPLUS RECORDS THAT CITE THIS  
 RECORD (15 CITINGS)

L39 ANSWER 3 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 2005:248853 HCAPLUS Full-text  
 DOCUMENT NUMBER: 143:115843  
 TITLE: Synthesis and optical characteristics of PPV-based  
 copolymers  
 AUTHOR(S): Lee, Hyun Ho; Kim, Eun Ok; Won, Jang Hoon; Kim,  
 Young Ho  
 CORPORATE SOURCE: Department of Chemistry, The University of Suwon,  
 Kyunggi, 445-742, S. Korea  
 SOURCE: Journal of the Korean Chemical Society (  
 2005), 49(1), 72-77  
 CODEN: JKCSEZ; ISSN: 1017-2548  
 PUBLISHER: Korean Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Korean  
 ED Entered STN: 23 Mar 2005  
 AB The PPV related copolymers, TPA-PPV, TPA-POPV, TPA-ROPPV, and TPA-PBPV were  
 synthesized by the Wittig polycondensation reaction to tune the emission  
 wavelength from green to blue region. They showed UV-Vis. absorbance and PL  
 in the ranges of 378-440 nm and 447-503 nm, resp. The band gap energy of these  
 copolymers were in the ranges of 2.53-2.81 eV.  
 IT 603-34-9, Triphenylamine 603-35-0,  
 Triphenylphosphine, reactions  
 (reactant in monomer preparation; synthesis and optical characteristics  
 of PPV-based copolymers)  
 RN 603-34-9 HCAPLUS  
 CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



RN 603-35-0 HCAPLUS  
 CN Phosphine, triphenyl- (CA INDEX NAME)



CC 35-5 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 36, 74  
 IT Band gap  
 Conducting polymers  
 Electroluminescent devices  
 Luminescence  
 Thermal decomposition  
 (synthesis and optical characteristics of PPV-based copolymers)  
 IT 50-00-0, Formaldehyde, reactions 68-12-2, DMF, reactions 111-25-1,  
 1-Bromohexane 123-31-9, Hydroquinone, reactions 603-34-9  
 , Triphenylamine 603-35-0, Triphenylphosphine, reactions  
 1667-10-3, 4,4'-Bis(chloromethyl)-1,1'-biphenyl 10035-10-6,  
 Hydrobromic acid, reactions  
 (reactant in monomer preparation; synthesis and optical characteristics  
 of PPV-based copolymers)

L39 ANSWER 4 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2004:181344 HCAPLUS Full-text

DOCUMENT NUMBER: 140:375611

TITLE: Synthesis and photophysical properties of a novel  
 semiconducting polymer

AUTHOR(S): Huang, Hongmin; He, Qingguo; Lin, Hongzhen; Bai,  
 Fenglian; Sun, Zhi; Li, Qingshan

CORPORATE SOURCE: Laboratory of Organic Solids, Center for Molecular  
 Science, Institute of Chemistry, The Chinese  
 Academy of Sciences, Beijing, 100080, Peop. Rep.  
 China

SOURCE: Polymers for Advanced Technologies (2004  
 ), 15(1-2), 84-88

CODEN: PADTE5; ISSN: 1042-7147

PUBLISHER: John Wiley & Sons Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

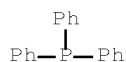
ED Entered STN: 05 Mar 2004

AB An alternating copolymer containing triphenylamine (TPA) and cyano-substituted  
 benzene moieties, TPA-CNPPV was synthesized using the Witting reaction. The  
 monomers and polymer were characterized by H-NMR, FT-IR and mass spectroscopy  
 (MS). The polymer shows good solubility in common organic solvents and  
 excellent film-forming ability. Thermogravimetric anal. (TGA) demonstrates  
 that the polymer has a degradation temperature (TD) of 600 °C; differential  
 scanning calorimetry (DSC) result indicates that the glass transition  
 temperature (Tg) of TPA-CNPPV is 160 °C, suggesting high thermal stability.  
 The photophys. properties of the light-emitting material were investigated in  
 both solution and spin-coated film. Photo-isomerization of the polymer was  
 investigated by UV-vis and fluorescence spectra. The interaction between TPA-  
 CNPPV and C60 was studied by fluorescence quenching.

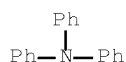
IT 603-35-0, Triphenylphosphine, reactions  
 (in reaction with bis(bromomethyl)dicyanobenzene)

RN 603-35-0 HCAPLUS

CN Phosphine, triphenyl- (CA INDEX NAME)



IT 603-34-9, Triphenylamine  
 (reaction with DMF and phosphorus oxychloride in preparation of monomer)  
 RN 603-34-9 HCAPLUS  
 CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



CC 35-5 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 36  
 IT UV absorption  
 (UV-visible; synthesis and photophys. properties of novel  
 semiconducting polymer)  
 IT Isomerization  
 (cis-trans, photochem.; synthesis and photophys. properties of  
 novel semiconducting polymer)  
 IT Fluorescence quenching  
 (of novel semiconducting polymer with fullerene)  
 IT Solvent effect  
 (on photophys. properties of novel semiconducting polymer  
 )  
 IT Polyamines  
 (polyphenylenevinylene-; synthesis and photophys. properties of  
 novel semiconducting polymer)  
 IT Poly(arylenealkenylenes)  
 (polyphenylenevinylenes, polyamine-; synthesis and photophys.  
 properties of novel semiconducting polymer)  
 IT Fluorescence  
 Glass transition temperature  
 Luminescence  
 Thermal stability  
 (synthesis and photophys. properties of novel semiconducting  
 polymer)  
 IT 99685-96-8, Fullerene 131159-39-2, Fullerene  
 (effect on photophys. properties of novel semiconducting  
 polymer)  
 IT 603-35-0, Triphenylphosphine, reactions  
 (in reaction with bis(bromomethyl)dicyanobenzene)  
 IT 53566-95-3P 232948-23-1P  
 (monomer; preparation of, and in synthesis of novel semiconducting  
 polymer)  
 IT 603-34-9, Triphenylamine  
 (reaction with DMF and phosphorus oxychloride in preparation of monomer)  
 IT 71-43-2, Benzene, uses 593-45-3, Octadecane  
 (solvent effect on photophys. properties of novel semiconducting  
 polymer)  
 IT 683218-09-9P 683218-10-2P  
 (synthesis and photophys. properties of novel semiconducting

polymer)  
 OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS  
 RECORD (5 CITINGS)  
 REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L39 ANSWER 5 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 2003:757368 HCAPLUS Full-text  
 DOCUMENT NUMBER: 139:261652  
 TITLE: **Polymerized** cycloolefins using  
 transition metal catalyst and end product optical  
 articles for electronic devices  
 INVENTOR(S): Rhodes, Larry Funderburk; Bell, Andrew; Ravikiran,  
 R.; Fondran, John C.; Jayaraman, Saikumar;  
 Goodall, Brian Leslie; Mimna, Richard A.; Lipian,  
 John-Henry  
 PATENT ASSIGNEE(S): Promerus, LLC, USA  
 SOURCE: U.S. Pat. Appl. Publ., 90 pp., Cont.-in-part of  
 U.S. Ser. No. 196,525.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20030181607	A1	20030925	US 2002-271393	20021015
			<--	
US 6903171	B2	20050607		
US 20020052454	A1	20020502	US 1999-412935	19991005
			<--	
US 6455650	B2	20020924		
CN 1847270	A	20061018	CN 2005-10104100	19991005
			<--	
US 20030023013	A1	20030130	US 2002-196525	20020716
			<--	
US 6825307	B2	20041130		
US 20040048994	A1	20040311	US 2003-464978	20030618
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WO 2004035636	A2	20040429	WO 2003-US32474	20031014
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WO 2004035636	A3	20050113		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,			
	CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,			
	GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,			
	LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,			
	NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ,			
	TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,			
	BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,			
	EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,			
	SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,			
	NE, SN, TD, TG			
AU 2003287068	A1	20040504	AU 2003-287068	20031014
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PRIORITY APPLN. INFO.:			US 1998-103120P	P 19981005
			<--	
			US 1999-412935	A3 19991005

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 US 2002-196525 A2 20020716  
 <--  
 US 1998-111590P P 19981209  
 <--  
 CN 1999-802712 A3 19991005  
 <--  
 US 2002-271393 A1 20021015  
 <--  
 WO 2003-US32474 W 20031014  
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## ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 139:261652

ED Entered STN: 26 Sep 2003

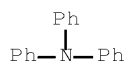
AB The addition polymerization of cycloolefins uses a cationic Group 10 metal complex and a weakly coordinating anion (WCA), [(R')<sub>z</sub>M(L')<sub>x</sub>(L'')<sub>y</sub>]b[WCA]<sub>d</sub>, where [(R')<sub>z</sub>M(L')<sub>x</sub>(L'')<sub>y</sub>] is a cation complex where M is a Group 10 transition metal; R' is anionic hydrocarbyl containing ligand; L' is Group 15 neutral electron donor ligand; L'' is a labile neutral electron donor ligand; x = 1 or 2; y = 0, 1, 2, or 3; z = 0 or 1, where the sum of x, y, and z = 4; [WCA] is counter anion complex; and b and d are nos. representing the number of times the cation complex and weakly coordinating counter anion complex are taken to balance the electronic charge on the overall catalyst complex.

IT 603-34-9, Triphenylamine 603-35-0,  
 Triphenylphosphine, uses

(catalyst ligand; transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymerization of cycloolefins)

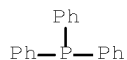
RN 603-34-9 HCAPLUS

CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



RN 603-35-0 HCAPLUS

CN Phosphine, triphenyl- (CA INDEX NAME)



IC ICM C08F004-44

INCL 526134000; 526308000; 526171000; 526172000

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 67, 76

ST optical semiconductor device cycloolefin polymer; transition metal complex catalyst cycloolefin polymer; allylpalladium cyclohexylphosphine fluorophenylborate catalyst butylnorbornene ethoxysilylnorbornene polymer

IT Polysiloxanes, preparation

(block polycycloalkene-; transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymerization of cycloolefins)

- IT Amines, uses  
(complexes; transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymerization of cycloolefins)
- IT Electroluminescent devices  
Electronic packaging materials  
Optoelectronic semiconductor devices  
(cycloolefin polymers for packaging of electronic devices)
- IT Polysiloxanes, preparation  
(di-Me, Me vinyl, vinyl group-terminated, Gelest VMM 010, reaction products with hexylnorbornene and triethoxysilylnorbornene; transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymerization of cycloolefins)
- IT Polysiloxanes, preparation  
(di-Me, di-Ph, vinyl group-terminated, Gelest PDV 1625, reaction products with hexylnorbornene and triethoxysilylnorbornene; transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymerization of cycloolefins)
- IT Cycloalkenes  
(polymers; transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymerization of cycloolefins)
- IT Polymerization catalysts  
(transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymerization of cycloolefins)
- IT Platinum-group metal complexes  
(transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymerization of cycloolefins)
- IT Fluoropolymers, preparation  
(transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymerization of cycloolefins)
- IT 116-17-6, Triisopropyl phosphite 432-04-2,  
Tris(trifluoromethyl)phosphine 554-70-1, Triethylphosphine  
585-48-8, 2,6-Di-tert-butylpyridine 594-09-2, Trimethylphosphine  
603-34-9, Triphenylamine 603-35-0,  
Triphenylphosphine, uses 603-36-1, Triphenylstibine 607-01-2,  
Ethyldiphenylphosphine 672-66-2, Dimethylphenylphosphine 819-19-2,  
Di-tert-butylphosphine 829-84-5, Dicyclohexylphosphine 855-38-9,  
Tris(p-methoxyphenyl)phosphine 998-40-3, Tributylphosphine  
1017-60-3, Bis[4-methylphenyl]phosphine 1038-95-5,  
Tri-p-tolylphosphine 1101-41-3, Tetraphenylbiphosphine 1159-54-2,  
Tris(4-chlorophenyl)phosphine 1259-35-4,  
Tris(pentafluorophenyl)phosphine 1485-88-7,  
(2-Methoxyphenyl)methylphenylphosphine 1605-53-4,  
Diethylphenylphosphine 1663-45-2, 1,2-Bis(diphenylphosphino)ethane  
1732-72-5, Dibutylphosphine 1795-31-9, Tris(trimethylsilyl)  
phosphite 2155-96-6, Diphenylvinylphosphine 2234-97-1,  
Tripropylphosphine 2622-14-2, Tricyclohexylphosphine 2741-38-0,  
Allyldiphenylphosphine 2752-19-4, Tri-o-xenyl phosphite 4006-38-6,  
Diisobutylphosphine 4125-25-1, Triisobutylphosphine 4731-53-7,  
Tri-n-octylphosphine 4731-65-1, Tris(2-methoxyphenyl)phosphine  
5074-71-5, Bis(pentafluorophenyl)phenylphosphine 5518-52-5,  
Tris(2-furylphosphine 5525-95-1,  
Diphenyl(pentafluorophenyl)phosphine 6002-34-2,  
tert-Butyldiphenylphosphine 6163-58-2, Tri-o-tolylphosphine  
6224-63-1, Tri-m-tolylphosphine 6372-40-3,  
Diphenylisopropylphosphine 6372-42-5, Cyclohexyldiphenylphosphine  
6372-44-7, Dibutylphenylphosphine 6476-36-4, Triisopropylphosphine  
6476-37-5, Dicyclohexylphenylphosphine 7650-88-6,

- Tricyclopentylphosphine 7650-89-7, Tribenzylphosphine 7650-91-1,  
 Benzyldiphenylphosphine 13406-29-6,  
 Tris(p-trifluoromethylphenyl)phosphine 13716-12-6,  
 Tri-tert-butylphosphine 14180-51-9,  
 Bis(4-methoxyphenyl)phenylphosphine 15383-58-1,  
 1,2-Bis(diphenylphosphino)propane 15573-38-3,  
 Tris(trimethylsilyl)phosphine 16523-89-0, Triallylphosphine  
 17261-28-8, 2-(Diphenylphosphino)benzoic acid 17586-49-1,  
 Tri-sec-butylphosphine 18437-78-0, Tris(p-fluorophenyl)phosphine  
 23743-26-2, 1,2-Bis(dicyclohexylphosphino)ethane 23897-15-6,  
 Tris(2,4,6-trimethylphenyl)phosphine 24171-89-9,  
 Tris(2-thienyl)phosphine 24850-33-7, Allyltributyltin 26464-99-3,  
 Dimethyl(trimethylsilyl)phosphine 26681-88-9, Divinylphenylphosphine  
 28609-58-7, Tris(phenylthio)stibine 28653-22-7, Trinaphthylphosphine  
 29949-75-5, Diallylphenylphosphine 29949-84-6,  
 Tris(m-methoxyphenyl)phosphine 29949-85-7,  
 Tris(3-chlorophenyl)phosphine 31570-04-4,  
 Tris(2,4-di-tert-butylphenyl) phosphite 42491-33-8,  
 tert-Butylbis(trimethylsilyl)phosphine 43077-29-8,  
 Diphenyl-(+)-neomenthylphosphine 53111-20-9,  
 Diphenyl(2-methoxyphenyl)phosphine 56522-04-4, Dibenzylphosphine  
 63995-70-0 76189-55-4 83622-85-9, Tris(3-methoxypropyl)phosphine  
 85417-41-0, Tris(2,6-dimethoxyphenyl)phosphine 166172-69-6,  
 Bis[3,5-bis(trifluoromethyl)phenyl]phosphine 175136-62-6,  
 Tris[3,5-bis(trifluoromethyl)phenyl]phosphine 193404-80-7  
 216020-59-6, Bis(2-furyl)phosphine 263878-91-7  
 (catalyst ligand; transition metal complexes stabilized by weakly  
 coordinating counterions for catalysts for polymerization of  
 cycloolefins)
- IT 75-16-1, Methylmagnesium bromide 124-41-4, Sodium methoxide  
 127-91-3,  $\beta$ -Pinene 139362-04-2  
 (catalyst precursor; transition metal complexes stabilized by  
 weakly coordinating counterions for catalysts for polymerization  
 of cycloolefins)
- IT 100-42-5D, Styrene, crosslinked polymer  
 (catalyst support; transition metal complexes stabilized by weakly  
 coordinating counterions for catalysts for polymerization of  
 cycloolefins)
- IT 2102-16-1, Hexadeuterocyclopentadiene 25291-17-2,  
 1H,1H,2H-Perfluoro-1-octene  
 (monomer precursor; transition metal complexes stabilized by weakly  
 coordinating counterions for catalysts for polymerization of  
 cycloolefins)
- IT 263879-07-8P  
 (monomer; transition metal complexes stabilized by weakly  
 coordinating counterions for catalysts for polymerization of  
 cycloolefins)
- IT 97-93-8, Triethylaluminum, uses 1295-35-8, Bis(cyclooctadiene)nickel  
 3375-31-3 12012-95-2, Allylpalladium chloride dimer 12107-56-1  
 12145-60-7, (Methallyl)nickel chloride dimer 13965-03-2 14024-61-4,  
 Palladium acetylacetonate 15242-92-9 18987-59-2 28425-04-9  
 29934-17-6, Bis(tricyclohexylphosphine)palladium dichloride  
 31989-57-8, Bis(triphenylphosphine)palladium 32216-28-7,  
 Allylplatinum chloride tetramer 33309-88-5 34424-15-2 40691-33-6  
 42196-31-6, Palladium trifluoroacetate 63936-77-6 63936-85-6,  
 (1,5-Cyclooctadiene)methylpalladium chloride 125475-73-2  
 135348-57-1, Ferrocenium tetrakis(pentafluorophenyl)borate  
 141219-72-9, Palladium ethylhexanoate 172418-32-5 263878-78-0  
 263879-42-1 263879-43-2 263879-44-3  
 (transition metal complexes stabilized by weakly coordinating

- counterions for catalysts for polymerization of cycloolefins)
- IT 12013-04-6P, (Allyl)palladium iodide dimer 28016-71-9P 32699-43-7P  
 34829-33-9P 58676-44-1P 71035-50-2P 79270-04-5P 119875-93-3P  
 125893-61-0P 179803-34-0P 263878-70-2P 263878-71-3P  
 263878-72-4P 263878-73-5P 263878-74-6P 263878-75-7P  
 263878-76-8P 263878-77-9P 263878-79-1P 263878-80-4P  
 263905-49-3P 263905-50-6P  
 (transition metal complexes stabilized by weakly coordinating  
 counterions for catalysts for polymerization of cycloolefins)
- IT 25038-76-0P, Polynorbornene 25038-78-2P, Polydicyclopentadiene  
 26935-77-3P, Poly(5-butyl-2-norbornene) 26935-79-5P,  
 Poly(5-hexylnorbornene) 26935-85-3P 29036-48-4P,  
 Poly-5-ethyl-2-norbornene 118777-99-4P 146066-32-2P,  
 Poly(5-triethoxysilyl-2-norbornene) 146066-36-6P 252338-36-6P  
 252338-37-7P, Butylnorbornene-5-triethoxysilylnorbornene copolymer  
 252338-38-8P 263878-83-7P 263878-84-8P 263878-85-9P  
 263878-86-0P 263878-87-1P 263878-88-2P 263878-89-3P  
 263878-90-6P 263878-92-8P 263878-94-0P 263878-96-2P  
 263878-97-3P 263878-98-4P 263878-99-5P 263879-00-1P  
 263879-01-2P 263879-02-3P 263879-03-4P 263879-04-5P  
 263879-05-6P 263879-06-7P 263879-08-9P 263879-09-0P  
 263879-10-3P 263879-11-4P 263879-12-5P 263880-86-0P  
 263905-51-7P 263905-52-8P 264133-20-2P  
 (transition metal complexes stabilized by weakly coordinating  
 counterions for catalysts for polymerization of cycloolefins)
- IT 199450-09-4 220836-13-5 220836-14-6 220836-19-1 220836-26-0  
 220836-29-3 220836-34-0 263880-01-9 263880-02-0 263880-03-1  
 263880-04-2 263880-05-3 263880-07-5 263880-09-7 263880-10-0  
 263880-12-2 263880-13-3 263880-14-4 263880-15-5 263880-16-6  
 263880-18-8 263880-19-9 263880-22-4 263880-24-6 263880-25-7  
 263880-28-0 263880-30-4 263880-34-8 263880-36-0 263880-38-2  
 263880-40-6 263880-42-8 263880-43-9 263880-45-1 263880-46-2  
 263880-47-3 263880-48-4 263880-49-5 263880-50-8 263880-52-0  
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 263880-58-6 263880-60-0 263880-61-1 263880-62-2 263880-63-3  
 263880-65-5 263880-66-6 263880-67-7 263880-68-8 263880-70-2  
 263880-71-3 263880-72-4 263880-73-5 263880-75-7 263880-76-8  
 263880-77-9 263880-78-0 263880-80-4 263880-81-5 263880-82-6  
 263880-83-7 263880-85-9 263880-87-1 263905-53-9 263905-54-0  
 263905-55-1 263905-57-3  
 (weakly coordinating counterion component; transition metal  
 complexes having weakly coordinating counterions for catalysts for  
 polymerization of cycloolefins)
- IT 143-66-8, Sodium tetraphenylborate 1109-15-5,  
 Tris(pentafluorophenyl)boron 2797-28-6, Lithium  
 tetrakis(pentafluorophenyl)borate 14104-20-2, Silver  
 tetrafluoroborate 25776-12-9, Sodium tetrakis(4-fluorophenyl)borate  
 26603-18-9, Sodium tetrakis(3-fluorophenyl)borate 55471-58-4  
 68140-33-0, Lithium tetrakis(4-fluorophenyl)borate 70083-57-7  
 79060-88-1, Sodium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate  
 89171-23-3, Potassium tetrakis(pentafluorophenyl)borate 105560-52-9,  
 Potassium tetrakis[bis(3,5-trifluoromethyl)phenyl]borate  
 118612-00-3, N,N-Dimethylanilinium tetrakis(pentafluorophenyl)borate  
 119861-51-7, Sodium tetrakis(3,5-difluorophenyl)borate 120945-63-3  
 121919-80-0 136040-19-2, Trityl tetrakis(pentafluorophenyl)borate  
 142617-68-3 143319-79-3 143607-32-3 144674-03-3 148354-26-1  
 148354-27-2, Triethylsilylium tetrakis(pentafluorophenyl)borate  
 149213-65-0, Sodium tetrakis(pentafluorophenyl)borate 153347-65-0,  
 Lithium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate 156713-63-2  
 157475-37-1 160298-75-9, Silver tetrakis(4-fluorophenyl)borate

160298-76-0 167172-26-1 167172-28-3 172883-38-4 177716-84-6  
 177716-86-8 177716-87-9 177716-91-5 177716-92-6 177716-94-8  
 177716-99-3 177717-01-0 177717-03-2 177717-05-4 177717-08-7  
 177717-10-1 177717-12-3 188019-19-4, Thallium  
 tetrakis[3,5-bis(trifluoromethyl)phenyl]borate 188707-89-3  
 191101-32-3 220836-20-4 220836-25-9 225797-12-6 263878-81-5  
 263878-82-6 263879-13-6, Lithium tetrakis(2-fluorophenyl)borate  
 263879-14-7, Sodium tetrakis(2-fluorophenyl)borate 263879-15-8,  
 Silver tetrakis(2-fluorophenyl)borate 263879-16-9, Thallium  
 tetrakis(2-fluorophenyl)borate 263879-17-0, Lithium  
 tetrakis(3-fluorophenyl)borate 263879-18-1, Silver  
 tetrakis(3-fluorophenyl)borate 263879-19-2, Thallium  
 tetrakis(3-fluorophenyl)borate 263879-21-6, Ferrocenium  
 tetrakis(3-fluorophenyl)borate 263879-24-9, Thallium  
 tetrakis(4-fluorophenyl)borate 263879-27-2, Lithium  
 tetrakis(3,5-difluorophenyl)borate 263879-31-8 263879-32-9  
 263879-33-0 263879-34-1 263879-35-2 263879-36-3 263879-37-4  
 263879-39-6 263879-40-9 263879-41-0 263879-45-4 263879-46-5  
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 263879-67-0 263879-68-1 263879-69-2 263879-70-5 263879-71-6  
 263879-72-7 263879-73-8 263879-74-9 263879-75-0 263879-76-1  
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 263879-89-6 263879-90-9 263879-91-0 263879-92-1 263879-93-2  
 263879-94-3 263879-95-4 263879-96-5 263879-97-6 263879-98-7  
 263879-99-8 263880-00-8

(weakly coordinating counterion component; transition metal  
 complexes stabilized by weakly coordinating counterions for  
 catalysts for polymerization of cycloolefins)

OS.CITING REF COUNT: 28 THERE ARE 28 CAPLUS RECORDS THAT CITE THIS  
 RECORD (29 CITINGS)  
 REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L39 ANSWER 6 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:143381 HCAPLUS Full-text

DOCUMENT NUMBER: 138:187508

TITLE: Preparation of aromatic diamines by dimerization  
 of aromatic halides

INVENTOR(S): Kawamura, Hisayuki; Moriwaki, Fumio

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003055320	A	20030226	JP 2001-247018	20010816
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CN 1521160	A	20040818	CN 2003-103880	20030214
			<--	
CN 100410232	C	20080813		
PRIORITY APPLN. INFO.:			JP 2001-247018	A 20010816

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OTHER SOURCE(S): MARPAT 138:187508

ED Entered STN: 26 Feb 2003

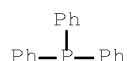
AB Ar1Ar2NAr3Ar3NAr1Ar2 [Ar1, Ar2 = (un)substituted 5- to 30-membered monovalent aromatic group; Ar3 = (un)substituted 5- to 30-membered divalent aromatic group; X = halo], useful as materials for heat-resistant electroluminescent devices and charge-transfer agents for electrophotog. photoreceptors, are prepared by dimerization of Ar1Ar2NAr3X (Ar1-Ar3 = same as above; X = halo). Thus, NiCl2 was treated with Ph3P, Zn powder, and KI at 70-80° in vacuo, mixed with THF, and treated with N,N-di(4-diphenyl)-4-bromoaniline/THF at 65-70° for 10 h to give 64% N,N,N',N'-tetrakis(4-diphenyl)-4,4'-benzidine, vs. 3%, when prepared from N,N'-bis(4-diphenyl)-4,4'-benzidine and 4-iodobiphenyl.

IT 603-35-0, Triphenylphosphine, uses

(preparation of aromatic diamines as materials for charge-transfer agents and electroluminescent devices with transition metal complexes as dimerization catalysts)

RN 603-35-0 HCAPLUS

CN Phosphine, triphenyl- (CA INDEX NAME)

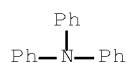


IT 603-34-9, Triphenylamine

(preparation of aromatic diamines as materials for charge-transfer agents and electroluminescent devices with transition metal complexes as dimerization catalysts)

RN 603-34-9 HCAPLUS

CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



IC ICM C07C209-68

ICS C07C211-54; C07C211-58; C07D207-34; C07D213-74; C07D215-38;  
C07D271-10; C07D307-66; C07B061-00

CC 25-4 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)  
Section cross-reference(s): 73, 74

ST arom diamine prepn material electroluminescent device;  
charge transfer electrophotog photoreceptor material diamine prepn;  
nickel catalyst dimerization arom halide

IT Electrophotographic photoconductors (photoreceptors)

(charge-transfer agents for; preparation of aromatic diamines as materials for charge-transfer agents and electroluminescent devices with transition metal complexes as dimerization catalysts)

IT Phosphines

(complexes, with transition metals; preparation of aromatic diamines as materials for charge-transfer agents and electroluminescent devices with transition metal complexes as dimerization catalysts)

IT Dimerization catalysts

Electroluminescent devices

(preparation of aromatic diamines as materials for charge-transfer agents and electroluminescent devices with transition metal

complexes as dimerization catalysts)

IT Aryl halides  
(preparation of aromatic diamines as materials for charge-transfer agents and ~~electroluminescent~~ devices with transition metal complexes as dimerization catalysts)

IT Transition metal complexes  
(with phosphines; preparation of aromatic diamines as materials for charge-transfer agents and ~~electroluminescent~~ devices with transition metal complexes as dimerization catalysts)

IT 603-35-0, Triphenylphosphine, uses 7718-54-9, Nickel chloride, uses  
(preparation of aromatic diamines as materials for charge-transfer agents and ~~electroluminescent~~ devices with transition metal complexes as dimerization catalysts)

IT 145898-89-1P 164724-35-0P 194727-77-0P 214338-27-9P  
(preparation of aromatic diamines as materials for charge-transfer agents and ~~electroluminescent~~ devices with transition metal complexes as dimerization catalysts)

IT 90-14-2, 1-Iodonaphthalene 92-52-4, Biphenyl, reactions 92-86-4, 4,4'-Dibromobiphenyl 103-88-8 106-40-1, p-Bromoaniline 122-39-4, Diphenylamine, reactions 591-50-4, Iodobenzene 603-34-9, Triphenylamine  
(preparation of aromatic diamines as materials for charge-transfer agents and ~~electroluminescent~~ devices with transition metal complexes as dimerization catalysts)

IT 1591-31-7P, 4-Iodobiphenyl 29325-58-4P 38257-52-2P, 4-Iodotriphenylamine 54446-36-5P, 4-Bromodiphenylamine 138310-84-6P 202831-65-0P 499128-71-1P 499128-72-2P  
(preparation of aromatic diamines as materials for charge-transfer agents and ~~electroluminescent~~ devices with transition metal complexes as dimerization catalysts)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L39 ANSWER 7 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2000:824318 HCAPLUS Full-text

DOCUMENT NUMBER: 134:5250

TITLE: Organic semiconductors based on statistical copolymers

INVENTOR(S): Sage, Ian Charles; Wood, Emma Louise; Feast, William James; Peace, Richard John

PATENT ASSIGNEE(S): The Secretary of State for Defence, UK

SOURCE: PCT Int. Appl., 44 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

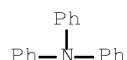
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
WO 2000069931	A1	20001123	WO 2000-GB1636	20000427
			<--	
W: GB, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
GB 2363384	A	20011219	GB 2001-24379	20000427
			<--	
GB 2363384	B	20031029		
EP 1183287	A1	20020306	EP 2000-927461	20000427

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

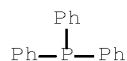
AB This invention relates to statistical copolymers [(CA<sub>X</sub>CH<sub>2</sub>)<sub>m</sub>(CH<sub>2</sub>CB<sub>Z</sub>)<sub>j</sub>]<sub>Q</sub> and their use in organic semiconductor devices: wherein m and j are the average number of repeat units of A and B such that: m = 0.1-0.9, j = 1-m, Q = 10-50000; A and B are independently selected from hole transporting groups and electron transporting groups and are statistically distributed along the polymer chain; X and Z are independently selected from H, CN, F, Cl, Br, CO<sub>2</sub>CH<sub>3</sub>. The polymers are useful in LEDs. A copolymer was prepared from 1,2-diphenyl-6-vinylquinoxaline and 4-vinyltriphenylamine.

RN 603-34-9 HCAPLUS

CN	Benzenamine, N,N-diphenyl-	(CA INDEX NAME)
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CN Phosphine, triphenyl- (CA INDEX NAME)



ICS C08F212-32; H05B033-12; H01B001-12

Section cross-reference(s): 76

Photorefractive materials

IT 75-36-5, Acetylchloride 128-08-5, NBS 134-81-6, Benzil 496-72-0,

1,2-Diamino-4-methylbenzene      603-34-9, Triphenylamine

603-35-0, Triphenylphosphine, reactions 21510-43-0

(organic semiconductors based on statistical copolymers)

52

## RE FORMAT

L39 ANSWER 8 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 2000:585508 HCAPLUS Full-text  
 DOCUMENT NUMBER: 133:185625  
 TITLE: Electroluminescent  
 bis(aminostyryl)benzene compounds, their synthetic  
 intermediates, and manufacture of the compounds  
 INVENTOR(S): Ichimura, Mari; Tamura, Shinichiro; Ishibashi,  
 Tadashi; Takada, Kazunori  
 PATENT ASSIGNEE(S): Sony Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 148 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

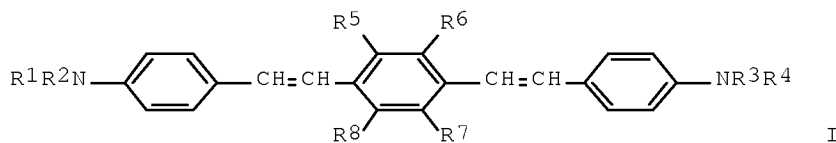
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000230132	A	20000822	JP 1999-312069	19991102
			<--	
JP 4411708	B2	20100210		
US 6337167	B1	20020108	US 1999-455724	19991206
			<--	
US 6525212	B1	20030225	US 2000-704960	20001102
			<--	
US 20030060652	A1	20030327	US 2002-228019	20020826
			<--	
US 20030069437	A1	20030410	US 2002-227671	20020826
			<--	
US 6979746	B2	20051227		
US 20030073863	A1	20030417	US 2002-227711	20020826
			<--	
JP 2009040792	A	20090226	JP 2008-232374	20080910
			<--	
JP 4386140	B2	20091216		
PRIORITY APPLN. INFO.:			JP 1998-347561	A 19981207
			<--	
			JP 1999-312069	A 19991102
			<--	
			US 1999-455724	A2 19991206
			<--	
			US 2000-704960	A3 20001102
			<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 133:185625

ED Entered STN: 23 Aug 2000

GI

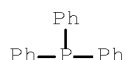


AB The bis(aminostyryl)benzenes are those represented as I (R1-R4 = aryls; R5-R8 involves cyano, NO<sub>2</sub>, halogen; other Markush structures corresponding to the compds. are also claimed). The compds. are manufactured by Wittig-Horner reaction or Wittig reaction of the claimed intermediates and the intermediates may be manufactured by coupling reaction. The compds. showing yellow to red color ~~electroluminescence~~ are suitable for display device.

IT 603-35-0, Triphenylphosphine, reactions  
(for manufacture of bis(aminostyryl)benzenes showing yellow to red ~~electroluminescence~~ for display device)

RN 603-35-0 HCAPLUS

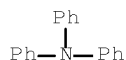
CN Phosphine, triphenyl- (CA INDEX NAME)



IT 603-34-9  
(intermediate; manufacture of bis(aminostyryl)benzenes showing yellow to red ~~electroluminescence~~ for display device)

RN 603-34-9 HCAPLUS

CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



IC ICM C09B023-00  
ICS C09B023-00; C07C211-56; C07C217-92; C07C223-06; C07C253-30;  
C07C255-51; C07F009-40; C07F009-54; C09K011-06; H05B033-14

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 41

ST yellow red ~~electroluminescence~~ bisaminostyrylbenzene manuf;  
~~electroluminescent~~ device bisaminostyrylbenzene; Wittg Horner reaction bisaminostyrylbenzene

IT Wittig reaction  
(Wittig-Horner reaction; for manufacture of bis(aminostyryl)benzenes showing yellow to red ~~electroluminescence~~ for display device)

IT Coupling reaction  
Wittig reaction  
(for manufacture of bis(aminostyryl)benzenes showing yellow to red ~~electroluminescence~~ for display device)

IT Electroluminescent devices  
(manufacture of bis(aminostyryl)benzenes showing yellow to red ~~electroluminescence~~ for display device)

IT 62-53-3, Benzenamine, reactions 603-35-0,  
Triphenylphosphine, reactions 288627-04-3  
(for manufacture of bis(aminostyryl)benzenes showing yellow to red ~~electroluminescence~~ for display device)

IT 4316-52-3P 4316-53-4P 20440-94-2P 20440-95-3P 42906-19-4P  
89115-20-8P 89115-21-9P  
(intermediate; manufacture of bis(aminostyryl)benzenes showing yellow to

red electroluminescence for display device)

IT 603-34-9 4181-05-9 4316-50-1 4316-51-2 36809-23-1  
 61231-45-6 87755-82-6 131660-61-2 138310-87-9 178477-23-1  
 288626-94-8 288626-95-9 288626-96-0 288626-97-1 288626-98-2  
 288626-99-3 288627-00-9 288627-01-0 288627-02-1  
 (intermediate; manufacture of bis(aminostyryl)benzenes showing yellow to red electroluminescence for display device)

IT 251101-60-7P 251349-04-9P 253868-17-6P 253868-91-6P  
 288626-78-8P 288626-79-9P 288626-80-2P 288626-81-3P  
 288626-82-4P 288626-83-5P 288626-84-6P 288626-85-7P  
 288626-86-8P 288626-87-9P 288626-88-0P 288626-89-1P  
 (manufacture of bis(aminostyryl)benzenes showing yellow to red electroluminescence for display device)

IT 288626-90-4 288626-91-5 288626-92-6 288626-93-7  
 (manufacture of bis(aminostyryl)benzenes showing yellow to red electroluminescence for display device)

L39 ANSWER 9 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1998:604764 HCAPLUS Full-text

DOCUMENT NUMBER: 129:224604

ORIGINAL REFERENCE NO.: 129:45495a,45498a

TITLE: Silicon-containing compounds and organic electroluminescent devices using them

INVENTOR(S): Ueda, Masato; Yahagi, Isao; Kitano, Makoto

PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 41 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 861845	A2	19980902	EP 1998-103458	19980227
			<--	
EP 861845	A3	20001004		
EP 861845	B1	20030528		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 11217392	A	19990810	JP 1998-27122	19980209
			<--	
JP 3873424	B2	20070124		
TW 546301	B	20030811	TW 1998-87101842	19980211
			<--	
US 6369258	B1	20020409	US 1998-33084	19980302
			<--	
US 20020115877	A1	20020822	US 2002-62665	20020205
			<--	
US 6696588	B2	20040224		
PRIORITY APPLN. INFO.:			JP 1997-46719	A 19970228
			<--	
			JP 1997-329011	A 19971128
			<--	
			US 1998-33084	A3 19980302
			<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 129:224604

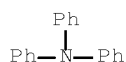
ED Entered STN: 24 Sep 1998

AB The invention provides a novel Si-containing compound having an oxidation potential of 0.3-1.5 V on the basis of a standard H electrode, in which  $\geq 1$  alkoxy group is bonded to a Si atom and  $\geq 1$  aromatic amine group is also bonded to the Si atom. An organic ~~electroluminescent~~ device having excellent mech. and elec. contact between an electrode and an organic layer is also provided by treating the surface of an anode with using a surface-treating agent comprising the above Si-containing compound

IT 603-34-9 603-35-0, Triphenylphosphine, reactions  
(reactant; in formation of silicon-containing compds. for organic ~~electroluminescent~~ devices)

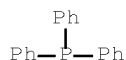
RN 603-34-9 HCAPLUS

CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



RN 603-35-0 HCAPLUS

CN Phosphine, triphenyl- (CA INDEX NAME)



IC ICM C07F007-18  
ICS C09K011-06; H05B033-14

CC 76-12 (Electric Phenomena)  
Section cross-reference(s): 29, 73

ST silicon compd org ~~electroluminescent~~ device

IT Polysilanes  
(preparation of; for organic ~~electroluminescent~~ devices)

IT ~~Electroluminescent~~ devices  
(silicon-containing compds. for)

IT 20441-06-9P 36809-26-4P, N-(4-Bromophenyl)-N-phenyl-aminobenzene  
183798-68-7P 194292-05-2P, 4-(N,N-Diphenylamino)phenyllithium  
212609-48-8P  
(preparation and reaction of; in formation of silicon-containing compds.  
for  
organic ~~electroluminescent~~ devices)

IT 623-27-8DP, Terephthalaldehyde, ~~polymers~~ with  
triphenylphosphine-bis(bromomethylene)cyclohexadiene reaction product  
31324-77-3P, Poly(Methylphenyldichlorosilane) 76188-55-1P,  
Poly(methylphenylsilylene) 183798-70-1P,  
Ethyl(4-(N,N-diphenylamino)phenyl)silane, homopolymer 183798-72-3P,  
Ethyl(4-(N,N-diphenylamino)phenyl)silane, homopolymer, sru  
212609-43-3DP, 2,5-Dioctyloxy-3,6-bis(bromomethylene)-1,4-  
cyclohexadiene, reaction products with triphenylphosphine,  
~~polymers~~ with terephthalaldehyde 212609-44-4P 212609-45-5P  
212609-46-6P 212609-47-7P, 1-(Triethoxysilyl)pyrene  
(preparation of; for organic ~~electroluminescent~~ devices)

IT 109-72-8, n-Butyllithium, reactions 115-21-9, Ethyltrichlorosilane  
128-08-5, N-Bromosuccinimide 149-74-6, Methylphenyldichlorosilane  
531-91-9, N,N'-Diphenyl-1,1'-biphenyl-4,4'-diamine 603-34-9

10/568,659

603-35-0, Triphenylphosphine, reactions 624-31-7,  
4-Iodotoluene 1714-29-0, 1-Bromopyrene 4667-99-6,  
Chlorotriethoxysilane 15546-43-7 212609-43-3  
(reactant; in formation of silicon-containing compds. for organic  
electroluminescent devices)

OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS  
RECORD (7 CITINGS)

L39 ANSWER 10 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1995:622360 HCAPLUS Full-text

DOCUMENT NUMBER: 123:69088

ORIGINAL REFERENCE NO.: 123:12113a,12116a

TITLE: The quenching of porous silicon photoluminescence  
by Group 15 triaryl derivatives: effects of  
surface photo-oxidation

AUTHOR(S): Sweryda-Krawiec, Beata; Coffey, Jeffery L.

CORPORATE SOURCE: Dep. Chem., Texas Christian Univ., Fort Worth, TX,  
76129, USA

SOURCE: Journal of the Electrochemical Society (  
1995), 142(6), L93-L95  
CODEN: JESQAN; ISSN: 0013-4651

PUBLISHER: Electrochemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

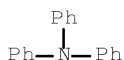
ED Entered STN: 20 Jun 1995

AB This work centers on an evaluation of the impact of photo-oxidation of the  
porous Si (PS) surface on the ability of the triaryl derivs. of the group 15  
elements EPh<sub>3</sub> (E = N, P, As) to quench the photoluminescence of porous  
silicon. The ability of porous Si to be quenched by these Group 15 triaryl  
derivs. is monitored with regard to four different surface treatments: freshly  
prepared porous Si, (i) without and (ii) with illumination to steady-state  
photoluminescence intensity; porous Si aged in ambient air for one month,  
(iii) without and (i.v.) with illumination to steady-state PL conditions. We  
specifically employ as a criterion for such an anal. the magnitude(s) of the  
maximum percentage of the integrated PL which can be quenched by a given Lewis  
base for a particular surface, and compare the trends observed with reported  
gas phase proton affinities.

IT 603-34-9, Triphenylamine 603-35-0,  
Triphenylphosphine, properties  
(quenching of porous silicon photoluminescence by Group 15 triaryl  
derivs. and effects of surface photo-oxidation)

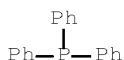
RN 603-34-9 HCAPLUS

CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



RN 603-35-0 HCAPLUS

CN Phosphine, triphenyl- (CA INDEX NAME)



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT ~~luminescence~~ quenching  
Oxidation, photochemical  
Surface  
(quenching of porous silicon photoluminescence by Group 15 triaryl derivs. and effects of surface photo-oxidation)

IT 603-32-7, Triphenylarsine 603-34-9, Triphenylamine  
603-35-0, Triphenylphosphine, properties 7440-21-3, Silicon, properties  
(quenching of porous silicon photoluminescence by Group 15 triaryl derivs. and effects of surface photo-oxidation)

OS.CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)

L39 ANSWER 11 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1990:412581 HCAPLUS Full-text

DOCUMENT NUMBER: 113:12581

ORIGINAL REFERENCE NO.: 113:2139a,2142a

TITLE: Surface-bound adducts of cadmium selenide with  
EPh<sub>3</sub> (E = N, P, As)

AUTHOR(S): Murphy, Catherine Jones

CORPORATE SOURCE: Univ. Wisconsin, Madison, WI, USA

SOURCE: Journal of the Electrochemical Society (  
1990), 137(4), 220C-222C  
CODEN: JESOAN; ISSN: 0013-4651

DOCUMENT TYPE: Journal

LANGUAGE: English

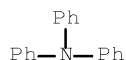
ED Entered STN: 06 Jul 1990

AB Photoluminescence of CdSe excited by laser irradiation was measured in pure toluene and toluene solns. containing the ligating groups EPh<sub>3</sub> (E is N, P, or As). The photoluminescence observed in pure toluene is enhanced by the addition of EPh<sub>3</sub> in a manner consistent with adduct formation. Depletion width changes in the CdSe reflect the relative basicities of the EPh<sub>3</sub> compds., maximizing with PPh<sub>3</sub>. Adduct formation consts. do not correlate with depletion width changes. The largest constant is found for AsPh<sub>3</sub>.

IT 603-34-9, Triphenylamine 603-35-0,  
Triphenylphosphine, reactions  
(reaction of, with cadmium selenide in toluene solution, surface-bound adduct formation by)

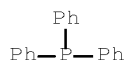
RN 603-34-9 HCAPLUS

CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



RN 603-35-0 HCAPLUS

CN Phosphine, triphenyl- (CA INDEX NAME)



CC 66-4 (Surface Chemistry and Colloids)  
 IT Luminescence  
 (of cadmium selenide in toluene solns. of triphenylamine and triphenylphosphine and triphenylarsine, surface-bound adduct formation in relation to)  
 IT 603-32-7, Triphenylarsine 603-34-9, Triphenylamine  
 603-35-0, Triphenylphosphine, reactions  
 (reaction of, with cadmium selenide in toluene solution, surface-bound adduct formation by)  
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L39 ANSWER 12 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1986:236607 HCAPLUS Full-text

DOCUMENT NUMBER: 104:236607

ORIGINAL REFERENCE NO.: 104:37335a,37338a

TITLE: Electrogenated chemiluminescence in mechanistic investigations of electroorganic reactions. Part VI. Sensitive detection of cation radicals by bis[1,2,3-trimethyl-2,3-dihydrobenzimidazolyl-(2)]/luminophor systems

AUTHOR(S): Pragst, F.; Niazymbetov, M.

CORPORATE SOURCE: Sekt. Chem., Humboldt-Univ., Berlin, DDR-1040, Ger. Dem. Rep.

SOURCE: Journal of Electroanalytical Chemistry and Interfacial Electrochemistry (1986), 197(1-2), 245-64

CODEN: JEIEBC; ISSN: 0022-0728

DOCUMENT TYPE: Journal

LANGUAGE: English

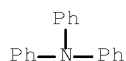
ED Entered STN: 27 Jun 1986

AB Cation radicals D<sup>+</sup>, formed as the primary products in an anodic process, produce a luminescence signal in the potential region of the voltammetric wave of D, if the oxidation is carried out in the presence of bis[1,2,3-trimethyl-2,3-dihydrobenzimidazolyl-(2)], B2, and a suitable luminophor, A, such as 9,10-diphenylanthracene (DPA), 2-phenyl-4-p-biphenyl-1,3,4-oxadiazole (PBD) or other highly fluorescent aromatic hydrocarbons, oxazoles or oxadiazoles. The use of this luminescence signal for a sensitive detection of D<sup>+</sup> was tested at a rotating disk electrode in a 1:1 MeCN + PhMe mixture as the solvent for a series of aromatic and aliphatic amines, Δ<sup>2</sup>-pyrazolines, carbazole, indole, 1,4-dihydropyridines, phenols, methoxybenzenes and tri-arylphosphines. For stable cation radicals the luminescence-potential curve shows a prewave at the foot of the voltammetric wave of D and a luminescence plateau in the limiting current region. In the case of a chemical reaction of D<sup>+</sup> the plateau is diminished or vanishes completely and the prewave changes to a prepeak between 20 and 100 mV below E<sub>1/2ox</sub>(D). The prepeak also decreases with increasing rate of the subsequent reaction, but is still seen for very short lived D<sup>+</sup>, e.g. for hydroquinone, carbazole or triphenylphosphine. The advantages and the restrictions of the method are discussed in the context of the luminescence mechanism.

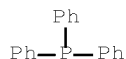
IT 603-34-9 603-35-0, analysis  
 (anodic luminescence of, cation radical detection in relation to)

RN 603-34-9 HCAPLUS

CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



RN 603-35-0 HCAPLUS  
CN Phosphine, triphenyl- (CA INDEX NAME)



CC 80-6 (Organic Analytical Chemistry)  
Section cross-reference(s): 22, 72, 73  
ST cation radical anodic product luminescence;  
trimethyldihydrobenzimidazolyl luminophor detection cation  
radical; potential oxidn arom compd luminescence  
IT Electric potential  
(luminescence in relation to, of aromatic compds.)  
IT luminescence, chemi-  
(electrochemi-, of aromatic compds.)  
IT 62-53-3, analysis 86-74-8 90-05-1 91-16-7 93-04-9 100-22-1  
100-61-8, analysis 102-56-7 110-91-8, properties 120-72-9,  
analysis 121-44-8, analysis 121-69-7, analysis 122-39-4,  
analysis 123-31-9, analysis 135-19-3, analysis 150-76-5  
150-78-7 603-34-9 603-35-0, analysis  
701-56-4 742-01-8 855-38-9 1104-21-8 1137-79-7 1197-19-9  
1450-62-0 1539-51-1 2515-55-1 2515-58-4 3274-37-1 6969-06-8  
10252-45-6  
(anodic luminescence of, cation radical detection in  
relation to)  
IT 94887-83-9  
(cation radical detection by anodic luminescence in  
presence of)  
IT 17221-73-7 21296-82-2 34471-10-8 34475-46-2, analysis  
34478-03-0 34507-04-5, analysis 34527-55-4 35653-35-1, analysis  
36752-99-5 53318-00-6 55012-64-1 57212-28-9, analysis  
60465-95-4 60715-77-7 61987-38-0 61987-49-3 61987-58-4  
61987-59-5 62005-72-5 63224-13-5, analysis 65018-31-7  
67977-56-4, analysis 68128-20-1, analysis 72835-09-7 83078-27-7  
102526-86-3 102526-87-4 102526-88-5, analysis 102526-89-6  
102526-90-9 102526-91-0 102573-16-0  
(detection of electrogenerated, luminescence in)  
IT 197-61-5 206-44-0 517-51-1 852-38-0 1499-10-1 1806-34-4  
2083-09-2 7229-88-1  
(electrochem. and spectroscopic properties of, luminophor  
action in relation to)  
IT 1499-10-1  
(luminophor, cation radical detection in relation to)  
OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS  
RECORD (6 CITINGS)

L39 ANSWER 13 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 1983:479485 HCAPLUS Full-text  
DOCUMENT NUMBER: 99:79485  
ORIGINAL REFERENCE NO.: 99:12145a,12148a

TITLE: Electronic transitions of molecules with heteroatoms

AUTHOR(S): Smirnov, S. G.; Konoplev, G. G.; Rodionov, A. N.; Godik, V. A.

CORPORATE SOURCE: USSR

SOURCE: Zhurnal Prikladnoi Spektroskopii (1983), 39(1), 93-8  
CODEN: ZPSBAX; ISSN: 0514-7506

DOCUMENT TYPE: Journal

LANGUAGE: Russian

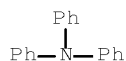
ED Entered STN: 12 May 1984

AB A systematic study of the spectral and ~~luminescent~~ properties of the Ph derivs. of the elements of IV and V Groups of the Periodic System was undertaken. The main characteristics, quantum yields of fluorescence and phosphorescence, and lifetimes of the electronic excited state were determined. Matrix elements of the spin-orbit interaction operator were calculated and compared with the values obtained from the exptl. data. Estns. of the radiative and nonradiative rates have been made. The magnitudes of the spin-orbit interaction operator matrix elements and those of the intersystem conversion rates depend not only on the atomic number of the heteroatom but also on the orbital nature of excited states which is determined by the  $1, \pi^*$ -configuration contribution.

IT 603-34-9 603-35-0, properties  
(electronic transitions of)

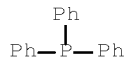
RN 603-34-9 HCAPLUS

CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



RN 603-35-0 HCAPLUS

CN Phosphine, triphenyl- (CA INDEX NAME)



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST electronic transition heteroatom; ~~luminescence~~ heteroatom mol

IT 603-32-7 603-33-8 603-34-9 603-35-0, properties 603-36-1  
(electronic transitions of)

L39 ANSWER 14 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN

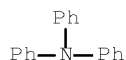
ACCESSION NUMBER: 1983:470889 HCAPLUS Full-text

DOCUMENT NUMBER: 99:70889

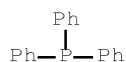
ORIGINAL REFERENCE NO.: 99:11015a,11018a

TITLE: Spectral-~~luminescence~~ properties and nature of the electronic states of molecules with heteroatoms

AUTHOR(S): Smirnov, S. G.; Konoplev, G. G.; Rodionov, A. N.;  
Godik, V. A.  
CORPORATE SOURCE: USSR  
SOURCE: Zhurnal Prikladnoi Spektroskopii (1983),  
38(6), 918-23  
CODEN: ZPSBAX; ISSN: 0514-7506  
DOCUMENT TYPE: Journal  
LANGUAGE: Russian  
ED Entered STN: 12 May 1984  
AB In this abstract 1 is a nonbonding AO. The absorption and emission properties  
of Ph<sub>3</sub>M (M = N, P, As, Sb, Bi) were studied exptl. and theor. by CNDO/S CI  
calcns. The role of charge-transfer (1,π\*) states in the formation of excited  
electronic states decreases with increasing atomic number of M. The spectral  
properties are determined mainly by the 1,π\* contribution. The importance of  
σ orbitals in the formation of excited states of nonplanar mols. is shown.  
IT 603-34-9 603-35-0, properties  
(absorption and luminescence spectra of, theor. study of)  
RN 603-34-9 HCAPLUS  
CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



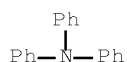
RN 603-35-0 HCAPLUS  
CN Phosphine, triphenyl- (CA INDEX NAME)



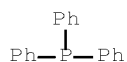
CC 29-8 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 22  
ST spectra Group VA triphenyl compd; luminescence Group VA  
triphenyl compd; MO Group VA triphenyl compd  
IT 603-32-7 603-33-8 603-34-9 603-35-0,  
properties 603-36-1  
(absorption and luminescence spectra of, theor. study of)

L39 ANSWER 15 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 1982:553356 HCAPLUS Full-text  
DOCUMENT NUMBER: 97:153356  
ORIGINAL REFERENCE NO.: 97:25399a,25402a  
TITLE: Triboluminescence of crystals containing the  
triphenyl group  
AUTHOR(S): Chandra, B. P.; Zink, Jeffrey I.  
CORPORATE SOURCE: Dep. Chem., Univ. California, Los Angeles, CA,  
90024, USA  
SOURCE: Journal of Physical Chemistry (1982),  
86(21), 4138-41  
CODEN: JPCHAX; ISSN: 0022-3654  
DOCUMENT TYPE: Journal  
LANGUAGE: English

ED Entered STN: 12 May 1984  
 AB The triboluminescence of crystals containing the tri-Ph group is studied. The triboluminescence emission occurs only during the movement of cracks in the crystals. The triboluminescence spectra of triphenylamine, triphenylphosphine, and triphenylarsine are similar to the photoluminescence spectra of the crystals. The triboluminescence spectra of triphenylmethane and chlorotriphenylmethane consists of both the luminescence bands of the crystals and emission from the 2nd pos. group of N. The triboluminescence spectra of triphenylphosphine oxide consists of only the N emission. The triboluminescence excitation mechanism is discussed.  
 IT ~~603-34-9~~ ~~603-35-0~~, properties  
 (triboluminescence of)  
 RN 603-34-9 HCAPLUS  
 CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



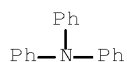
RN 603-35-0 HCAPLUS  
 CN Phosphine, triphenyl- (CA INDEX NAME)



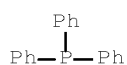
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 ST triboluminescence triphenyl group; luminescence tribo  
 triphenyl group  
 IT luminescence  
 (tribo-, of tri-Ph group compds.)  
 IT 76-83-5 115-86-6 519-73-3 596-43-0 603-32-7 ~~603-34-9~~  
~~603-35-0~~, properties 791-28-6  
 (triboluminescence of)  
 OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS  
 RECORD (5 CITINGS)

L39 ANSWER 16 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 1981:531801 HCAPLUS Full-text  
 DOCUMENT NUMBER: 95:131801  
 ORIGINAL REFERENCE NO.: 95:22067a,22070a  
 TITLE: Charge-transfer complexes of  $\pi$ -donors in  
 low-temperature matrixes - a study by electronic  
 emission spectroscopy  
 AUTHOR(S): Sennikov, P. G.; Kuznetsov, V. A.; Egorochkin, A.  
 N.  
 CORPORATE SOURCE: Inst. Chem., Gorkiy, USSR  
 SOURCE: Advances in Molecular Relaxation and Interaction  
 Processes (1981), 20(1-2), 89-99  
 CODEN: AMRPDF; ISSN: 0378-4487  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

ED Entered STN: 12 May 1984  
 AB Static quenching (T = 77K) of luminescence of naphthalene derivs. via CT complexes in the solid state with tetracyanoethylene has been studied. The linear correlation between the logarithm of KQ quenching constant and vCT frequency in electronic absorption spectra of CT complexes has been observed. Equilibrium consts. of complex formation Kc and other thermodyn. functions of CT complexes have been determined. A linear correlation occurs between KQ and Kc. These results support the assumption that the KQ quenching constant is identical to the equilibrium constant of complex formation. The observed regularity has been used for the investigation of complex formation of Ph derivs. of Group IV and V elements with mol. O.  
 IT 603-34-9 603-35-0, reactions  
 (charge-transfer complexation of, with oxygen or tetracyanoethylene)  
 RN 603-34-9 HCAPLUS  
 CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



RN 603-35-0 HCAPLUS  
 CN Phosphine, triphenyl- (CA INDEX NAME)



CC 22-2 (Physical Organic Chemistry)  
 ST charge transfer luminescence quenching; naphthalene luminescence quenching tetracyanoethylene; UV charge transfer luminescence quenching  
 IT Equilibrium  
 (for charge-transfer complexation of naphthalenes with tetracyanoethylene, luminescence quenching in relation to)  
 IT Ultraviolet and visible spectra  
 (of charge-transfer complexes of naphthalenes with tetracyanoethylene, luminescence quenching in relation to)  
 IT luminescence quenching  
 (of naphthalene derivs. by tetracyanoethylene, charge-transfer complexation in relation to)  
 IT Charge-transfer complexes  
 (of naphthalene derivs. with tetracyanoethylene, luminescence quenching by)  
 IT 603-32-7 603-34-9 603-35-0, reactions  
 603-36-1 630-76-2 1048-05-1 1048-08-4  
 (charge-transfer complexation of, with oxygen or tetracyanoethylene)  
 IT 90-11-9 90-15-3 91-20-3, properties 91-57-6 93-04-9 134-32-7  
 135-19-3, properties 573-97-7 613-62-7 3401-47-6 16239-18-2  
 18081-08-8 18753-46-3 53553-82-5 79054-26-5

(luminescence of, quenching by charge-transfer  
complexation with tetracyanoethylene)

IT 670-54-2, properties

(quenching of naphthalene luminescence by, by  
charge-transfer complexation)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS  
RECORD (2 CITINGS)

L39 ANSWER 17 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1978:441789 HCAPLUS Full-text

DOCUMENT NUMBER: 89:41789

ORIGINAL REFERENCE NO.: 89:6469a,6472a

TITLE: Systematics of molecules based on spectral-  
luminescent properties. II. Spectral-  
luminescent properties of compounds with  
heteroatoms [( $\sigma\pi$ v), ( $\sigma\pi$ l), and  
( $\sigma\pi$ lv) classes]

AUTHOR(S): Rogozhin, K. L.; Rodionov, A. N.; Shigorin, D. N.

CORPORATE SOURCE: Fiz.-Khim. Inst. im. Karpova, Moscow, USSR

SOURCE: Zhurnal Fizicheskoi Khimii (1978),  
52(5), 1121-5

CODEN: ZFKHA9; ISSN: 0044-4537

DOCUMENT TYPE: Journal

LANGUAGE: Russian

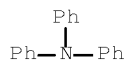
ED Entered STN: 12 May 1984

AB The electronic spectral properties of  $\text{Ph}_4\text{M}$  ( $\text{M} = \text{Si}, \text{Ge}, \text{Sn}$ ) and  $\text{Me}_3\text{M}'$  ( $\text{M}' = \text{B}, \text{Al}, \text{Ga}, \text{N}, \text{P}, \text{As}$ ) were determined by the nature and the relative position of the free orbitals of the heteroatom or those occupied by the unshared electron pair with respect to the orbitals of the  $\pi$  system. The atomic number of the heteroatom was also a factor.

IT 603-34-9 603-35-0, properties  
(electronic spectrum and luminescence of)

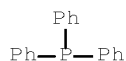
RN 603-34-9 HCAPLUS

CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



RN 603-35-0 HCAPLUS

CN Phosphine, triphenyl- (CA INDEX NAME)



CC 22-2 (Physical Organic Chemistry)

ST organometallic spectra luminescence

IT Organometallic compounds

(electronic spectrum and luminescence of)

IT 108-88-3, properties 519-73-3 595-90-4 603-32-7  
603-34-9 603-35-0, properties 841-76-9  
960-71-4 1048-05-1 1048-08-4 1088-02-4

(electronic spectrum and luminescence of)

L39 ANSWER 18 OF 18 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1957:75587 HCAPLUS Full-text

DOCUMENT NUMBER: 51:75587

ORIGINAL REFERENCE NO.: 51:13579i,13580a-b

TITLE: Fluorescence efficiencies of organic compounds

AUTHOR(S): Furst, Milton; Kallmann, Hartmut; Brown, Felix H.

CORPORATE SOURCE: New York Univ., New York, NY

SOURCE: Journal of Chemical Physics (1957), 26,  
1321-32

CODEN: JCPSA6; ISSN: 0021-9606

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

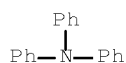
ED Entered STN: 22 Apr 2001

AB The relative fluorescence efficiencies of 334 organic compds. were measured in solution under high-energy and ultraviolet excitations. Good correlation between the relative fluorescence efficiencies under both types of radiation was observed for the compds. in solution. The high-energy fluorescence was affected by O and the solvent mol. was influenced to a greater extent than the solute. Solid and solution fluorescence were not well correlated. The NO<sub>2</sub> group produced a decrease in the emitted light in all compds. Cl and Br, which generally decreased the fluorescence, increased the fluorescence in compds. such as the 9,10-anthracene derivs. Some substitutions can be visualized as screening the mol. from interactions which induce nonradiative transitions. The influence of substitutions on the fluorescence of a solute did not depend on the solvent so long as the solvent was capable of transferring energy effectively.

IT 603-34-9, Triphenylamine 603-35-0, Phosphine,  
triphenyl-  
(fluorescence efficiency of)

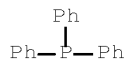
RN 603-34-9 HCAPLUS

CN Benzenamine, N,N-diphenyl- (CA INDEX NAME)



RN 603-35-0 HCAPLUS

CN Phosphine, triphenyl- (CA INDEX NAME)



CC 3 (Electronic Phenomena and Spectra)

IT 53-70-3, Dibenz[a,h]anthracene 60-09-3, Aniline, p-phenylazo-  
61-82-5, 1H-1,2,4-Triazol-3-amine 64-04-0, Phenethylamine 68-12-2,  
Formamide, N,N-dimethyl- 75-25-2, Bromoform 76-03-9, Acetic acid,  
trichloro-, 8-quinolinol derivative 76-83-5, Methane, chlorotriphenyl-  
76-93-7, Benzilic acid 77-73-6, 4,7-Methanoindene,  
3a,4,7,7a-tetrahydro- 78-10-4, Ethyl silicate, Et<sub>4</sub>SiO<sub>4</sub> 80-56-8,  
2-Pinene 81-88-9, Rhodamine B 82-05-3, 7H-Benz[de]anthracen-7-one  
83-32-9, Acenaphthene 85-06-3, Benzo[f]quinoline, 3-methyl-

86-29-3, Acetonitrile, diphenyl- 86-74-8, Carbazole 90-33-5,  
 Umbelliferone, 4-methyl- 90-47-1, Xanthen-9-one 91-64-5, Coumarin  
 92-06-8, m-Terphenyl 92-51-3, Bicyclohexyl 92-85-3, Thianthrene  
 95-59-0, p-Dioxane, 2,3-dichloro- 96-09-3, Benzene, (epoxyethyl)-  
 101-61-1, Aniline, 4,4'-methylenebis[N,N-dimethyl- 101-75-7,  
 Diphenylamine, 4-phenylazo- 101-77-9, Aniline, 4,4'-methylenedi-  
 101-81-5, Methane, diphenyl- 102-09-0, Carbonic acid, diphenyl ester  
 103-30-0, Stilbene, trans- 103-33-3, Azobenzene 103-82-2, Acetic  
 acid, phenyl- 109-97-7, Pyrrole 110-02-1, Thiophene 110-89-4,  
 Piperidine 110-91-8, Morpholine 111-77-3, Ethanol,  
 2-(2-methoxyethoxy)- 122-25-8, Salicylic acid, 5,5'-methylenedi-  
 122-57-6, 3-Buten-2-one, 4-phenyl- 123-00-2, Morpholine,  
 4-(3-aminopropyl)- 127-18-4, Ethylene, tetrachloro- 131-57-7,  
 Benzophenone, 2-hydroxy-4-methoxy- 132-65-0, Dibenzothiophene  
 136-35-6, Triazene, 1,3-diphenyl- 148-24-3, 8-Quinolinol 150-61-8,  
 Ethylenediamine, N,N'-diphenyl- 212-74-8, Tetraphenylene 218-01-9,  
 Chrysene 273-53-0, Benzoxazole 326-91-0, 1,3-Butanedione,  
 4,4,4-trifluoro-1-(2-thienyl)- 366-18-7, 2,2'-Bipyridine 505-84-0,  
 Methane, dipropoxy- 517-51-1, Naphthacene, 5,6,11,12-tetraphenyl-  
 519-73-3, Methane, triphenyl- 537-64-4, Mercury, di-p-tolyl-  
 544-85-4, Dotriacontane 587-85-9, Mercury, diphenyl- 589-33-3,  
 Pyrrole, 1-butyl- 595-90-4, Tin, tetraphenyl- 603-32-7, Arsine,  
 triphenyl- 603-33-8, Bismuthine, triphenyl- ~~603-34-9~~,  
 Triphenylamine ~~603-35-0~~, Phosphine, triphenyl- 603-36-1,  
 Stibine, triphenyl- 603-48-5, Aniline,  
 4,4',4'''-methylidynetris[N,N-dimethyl- 613-65-0, Aniline,  
 N,N-dimethyl-p-2-naphthylazo- 618-36-0, Benzylamine,  
 $\alpha$ -methyl-, dl- 621-96-5, 4,4'-Stilbenediamine 629-35-6,  
 Mercury, dibutyl- 630-06-8, Hexatriacontane 630-76-2, Methane,  
 tetraphenyl- 632-51-9, Ethylene, tetraphenyl- 632-52-0, Hydrazine,  
 tetraphenyl- 646-31-1, Tetracosane 683-18-1, Stannane,  
 dibutyldichloro- 688-74-4, Butyl borate, (BuO)<sub>3</sub>B 852-38-0,  
 1,3,4-Oxadiazole, 2-(4-biphenyl)-5-phenyl- 959-36-4,  
 Salicylaldehyde, azine 1095-03-0, Phenyl borate 1450-63-1,  
 1,3-Butadiene, 1,1,4,4-tetraphenyl- 1600-30-2, Ethane,  
 1,2-dichloro-1,1,2,2-tetraphenyl- 2031-67-6, Silane,  
 triethoxymethyl- 2051-90-3, Methane, dichlorodiphenyl- 2083-09-2,  
 Oxazole, 2,5-bis(4-biphenyl)- 2465-27-2, Auramine 2498-66-0,  
 Benz[a]anthracene-7,12-dione 2501-02-2, Stilbene, 4,4'-dinitro-  
 2834-79-9, Thiazole, 2-amino-4-(4-biphenyl)- 3029-40-1,  
 1,3,5,7-Octatetraene, 1,8-diphenyl- 4418-61-5, Tetrazole, 5-amino-  
 4705-34-4, Stilbene, 4,4'-dimethoxy- 4766-57-8, Butyl silicate,  
 (BuO)<sub>4</sub>Si 5440-19-7, Boric acid, tris(2-cyclohexylcyclohexyl) ester  
 5440-19-7, Cyclohexanol, 2-cyclohexyl-, borate 6307-92-2, Stilbene,  
 2,4,6-trinitro- 7379-28-4, Acetic acid, (ethylenedinitrilo)tetra-,  
 sodium salt 7570-38-9, Benzanilide, 4',4'''-vinylenebis-  
 15220-85-6, Propene, 2-methyl-, tetramer 16986-83-7, Propionic acid,  
 cadmium salt 29036-02-0, Quaterphenyl 38013-07-9, Maleic acid,  
 phenyl ester 89298-78-2, Fluoranthene, dibromo- 90114-42-4,  
 Guanidine, diphenyl- 120267-63-2,  
 2,5-Bis(4-biphenyl)-3-methyloxazolium p-toluenesulfonate  
 121193-78-0, Perylene, tetraphenyl- 122766-15-8, Dimethylamine,  
 1,1-bis(p-methoxyphenyl)-1'-phenyl- 122766-15-8, Dibenzylamine,  
 4-methoxy- $\alpha$ -(p-methoxyphenyl)-  
 (fluorescence efficiency of)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS  
 RECORD (2 CITINGS)

=> d his nofile

(FILE 'HOME' ENTERED AT 09:23:50 ON 09 JUN 2010)

FILE 'HCAPLUS' ENTERED AT 09:23:56 ON 09 JUN 2010

L1 1 SEA SPE=ON ABB=ON PLU=ON US20070031698/PN  
SEL RN

FILE 'REGISTRY' ENTERED AT 09:24:13 ON 09 JUN 2010

L2 13 SEA SPE=ON ABB=ON PLU=ON (1044764-63-7/BI OR 1074-24-4/B  
I OR 126213-51-2/BI OR 644-97-3/BI OR 7440-02-0/BI OR  
7440-05-3/BI OR 7440-70-2/BI OR 845795-81-5/BI OR 845795-82  
-6/BI OR 845795-84-8/BI OR 845795-85-9/BI OR 9003-53-6/BI  
OR 937-14-4/BI)  
ACT NGU659/A

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L3 STR  
L4 SCR 1609 OR 1741  
L5 SCR 2077  
L6 SCR 2127  
L7 SCR 1918  
L8 29859 SEA SSS FUL L3 AND L4 AND L6 NOT (L5 OR L7)

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L9 STR  
L10 STR  
L11 0 SEA SSS SAM L9 AND L10  
L12 1 SEA SUB=L8 SSS SAM L9 AND L10  
L13 1 SEA SPE=ON ABB=ON PLU=ON 603-35-0/RN  
L14 471 SEA SPE=ON ABB=ON PLU=ON 603-35-0/CRN  
L15 1 SEA SPE=ON ABB=ON PLU=ON 603-34-9/RN  
L16 115 SEA SPE=ON ABB=ON PLU=ON 603-34-9/CRN  
L17 0 SEA SPE=ON ABB=ON PLU=ON L14 AND L16  
L18 25 SEA SUB=L8 SSS FUL L9 AND L10  
SAV L18 NGU659A/A

FILE 'HCAPLUS' ENTERED AT 10:02:27 ON 09 JUN 2010

L19 40 SEA SPE=ON ABB=ON PLU=ON L18  
L20 938 SEA SPE=ON ABB=ON PLU=ON L14  
L21 24013 SEA SPE=ON ABB=ON PLU=ON L13  
L22 2344 SEA SPE=ON ABB=ON PLU=ON L15  
L23 204 SEA SPE=ON ABB=ON PLU=ON L16  
L24 322 SEA SPE=ON ABB=ON PLU=ON (L20 OR L21) AND (L22 OR L23)  
E POLYMERS, PROPERTIES/CT  
L25 67297 SEA SPE=ON ABB=ON PLU=ON "POLYMERS, PROPERTIES"+PFT,NT/C  
T  
L26 1 SEA SPE=ON ABB=ON PLU=ON L24 AND L25  
L27 72 SEA SPE=ON ABB=ON PLU=ON L24 AND (OLIGOMER? OR POLYMER?)  
L28 2 SEA SPE=ON ABB=ON PLU=ON L27 AND DEV/RL  
L29 5 SEA SPE=ON ABB=ON PLU=ON L27 AND OPTIC?/SC, SX  
L30 0 SEA SPE=ON ABB=ON PLU=ON L27 AND OPTICAL DEVICE?  
L31 QUE SPE=ON ABB=ON PLU=ON LUM!N? OR ELECTROLUM!N? OR  
ORGANOLUM!N? OR (ELECTRO OR ORGANO OR ORG#) (2A)LUM!N? OR  
LIGHT?(2A) (EMIT? OR EMISSION?) OR EL OR E(W)L OR L(W)E(W)D  
L32 11 SEA SPE=ON ABB=ON PLU=ON L27 AND L31  
L33 23 SEA SPE=ON ABB=ON PLU=ON L24 AND L31  
L34 27 SEA SPE=ON ABB=ON PLU=ON L26 OR (L28 OR L29 OR L30) OR  
(L32 OR L33)  
L35 20 SEA SPE=ON ABB=ON PLU=ON L34 AND (1840-2006)/PRY,AY,PY

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L36	21	SEA	SPE=ON	ABB=ON	PLU=ON	L19 AND (1840-2006)/PRY,AY,PY
L37	2	SEA	SPE=ON	ABB=ON	PLU=ON	L35 AND L36
L38	21	SEA	SPE=ON	ABB=ON	PLU=ON	(L36 OR L37)
L39	18	SEA	SPE=ON	ABB=ON	PLU=ON	L35 NOT L38